COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF AGRICULTURE

BULLETIN No. 255

TABULATED ANALYSES OF

Commercial Fertilizers

FROM SAMPLES SELECTED IN ACCORDANCE

WITH ACT OF MAY 1, 1909

BY THE

PENNSYLVANIA DEPARTMENT OF AGRICULTURE

From January 1 to August 1, 1914

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DEPARTMENT OF AGRICULTURE
COMMONWEALTH OF PENNSYLVANIA

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The Act of 1st May 1909, Commonly Referred to as "The New Fertilizer Law" is as Follows:

No. 205.

AN ACT

To regulate the manufacture and sale of commercial fertilizers; prescribing penalties for its violation, and repealing an act, entitled "An act to regulate the manufacture and sale of commercial fertilizers; providing for its enforcement, and prescribing penalties for its violation," approved the twenty-fifth day of March, Anno Domini one thousand nine hundred and one.

Section 1. Be it enacted, &c., That every package of commercial fertilizer sold, offered, or exposed for sale, for manurial purposes within this Commonwealth, except the dung of domestic animals, lime, marl, and wood-ashes, shall have plainly stamped thereon the name and address of the manufacturer or importer and his place of business, the net weight of the contents of the package, the brand or trade-name of the fertilizer the package contains, and an analysis stating the percentage such fertilizer contains of nitrogen in an available form, of potash soluble in water, of soluble and reverted phosphoric acid, and of insoluble phosphoric acid.

Section 2. Every manufacturer or importer of commercial fertilizers, as specified in section one of this act, shall, on or before the first day of January of each year, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture a statement of the names and number of brands of such commercial fertilizers, having distinct trade-names, that he shall offer for sale during the next ensuing year, and a copy of the analysis of each one of such brands of commercial fertilizers, as required by section one of this act.

Section 3. In addition to the statement required by section two of this act, every manufacturer or importer of commercial fertilizers shall, on or before the first day of January of each year, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture an affidavit showing the amount of each brand of fertilizer, having a distinct trade-name, sold within the Commonwealth during the last preceding year; and if the said amount shall be one hundred tons or less, he or they shall pay or cause to be paid to the Secretary of Agriculture the

sum of fifteen dollars for each and every brand of such commercial fertilizer, having a distinct trade name sold within the State during the last preceding year: and if the said amount shall exceed one hundred tons, and be less than five hundred tons, he or they shall pay the sum of twenty dollars, as aforesaid; and if the said amount shall be five hundred tons or more, he or they shall pay the sum of thirty dollars, as aforesaid. If such manufacturer or manufacturers, importer or importers, shall not have made any sales within the Commonwealth during the preceding year, he or they shall pay the sum of fifteen dollars upon each such brand, as aforesaid: Provided, That all monies so received shall be immediately paid by the Secretary of Agriculture into the State Treasury, for the use of the Commonwealth.

Section 4. No person shall sell, offer, or expose for sale, in this State, any pulverized leather, hair, ground hoofs, horns, or wool waste, raw, steamed, roasted, or in any form, as a fertilizer, or as an ingredient of a fertilizer or manure, without an explicit statement of the fact; said statement to be conspicuously affixed to every package of such fertilizer or manure, and to accompany and go with every lot, parcel, or package of the same.

Section 5. Any person or persons selling, offering, or exposing for sale, any commercial fertilizer or any brand of the same, having a distinct trade-name, without the analysis required by section one of this act, or with an analysis stating that it contains a larger percentage of any one or more of the above-named constituents than is contained therein, or for the sale of which all the provisions of sections two and three have not been complied with, or any person violating any of the provisions of section four of this act, shall be guilty of a misdemeanor, and, on conviction, shall be sentenced to pay a fine of not less than twenty-five nor more than one hundred dollars for the first offense, and not less than two hundred dollars for each subsequent offense. It shall be the duty of the Secretary of Agriculture to enforce the provisions of this act, and all penalties, costs, and fines recovered shall be paid to him or his duly authorized agent, and by him shall be immediately paid into the State Treasury, for the use of the Commonwealth.

Section 6. The Secretary of Agriculture is hereby empowered to collect samples of commercial fertilizers, either in person or by his duly qualified agent or representative, and to have them analyzed, and to publish the results for the information of the public; and for this purpose the said Secretary of Agriculture, such assistants, agents, experts, chemists, detectives, and counsel as he shall duly authorize, shall have full access, ingress, and egress to and from all places of

business, factories, barns, buildings, carriages, cars, and vessels, used in the manufacture and transportation, or sale, of any commercial fertilizer. They shall also have power to open any package or vessel containing or supposed to contain any commercial fertilizer, and take therefrom samples for analysis, upon tendering the value of said samples.

Section 7. The term "commercial fertilizers," as used in this act, shall be construed to mean any and every substance imported, manufactured, prepared, or sold for fertilizing or manuring purposes, except the dung of domestic animals, marl, lime, and wood-ashes, and not exempt by the provisions of section one of this act.

Section 8. This act shall go into effect on and after the thirty-first day of July, one thousand nine hundred and nine; and the act, entitled "An act to regulate the manufacture and sale of commercial fertilizers; providing for its enforcement, and prescribing penalties for its violation," approved the twenty-fifth day of March, Anno Domini one thousand nine hundred and one, is hereby repealed.

Approved—The 1st day of May, A. D. 1909.

EDWIN S. STUART.

No. 95.

AN ACT

Making it unlawful for any person, firm, or corporation, engaged in the manufacture or sale of commercial fertilizers, to use the word "bone" in connection with, or as part of the name of, any fertilizer, or any brand of the same, unless the phosphoric acid contained in such fertilizer shall be the product of pure animal bone; and providing a penalty for violation of the same.

Section 1. Be it enacted, &c., That it shall be unlawful for any person, firm or corporation, engaged in the manufacture or sale of commercial fertilizers, to use the word "bone" in connection with, or as part of the name of, any fertilizer, or any brand of the same, unless the phosphoric acid contained in such fertilizer shall be the product of pure animal bone.

Section 2. Any person or persons violating the provisions of this act shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall pay a fine of fifty dollars for the first offense, and a fine of not less than one hundred dollars, nor more than two hundred dollars, for every subsequent offense; such fine or fines to be paid into the State Treasury, for the use of the Commonwealth. The Secretary of Agriculture shall, together with his deputies, agents, and assistants, be charged with the enforcement of this act.

Section 3. All magistrates, aldermen, and justices of the peace throughout this Commonwealth shall have jurisdiction to hear and determine actions arising from violations of the provisions of this act, and shall have authority to hold for court, or to impose the penalty hereby prescribed, subject to appeal, as the law shall direct.

Section 4. This act shall go into effect on the first day of January, Anno Domini nineteen hundred and ten.

Approved—The 23d day of April, A. D. 1909.

EDWIN S. STUART.

State College, Pa., *July 18, 1914.*

Hon. N. B. Critchfield, *Secretary of Agriculture, Harrisburg, Pa.:*

Dear Sir: I have the honor to transmit hereith my report upon the analyses of the samples of commercial fertilizers received from official sampling agents during the spring season of 1914.

Very respectfully,

WM. FREAR,
Vice-Director and Chemist.

The Penna. State College Agricultural Experiment Station.

FERTILIZER VALUATIONS.

The object of an official valuation of commercial fertilizers is to enable the consumer to judge approximately whether he has been asked to pay for a given brand more than the fertilizing ingredients it contains and market conditions prevailing at the time would warrant. It is clear, therefore, that no attempt is made in this valuation to indicate whether the fertilizer valued possesses a greater or less crop-producing capacity than another fertilizer; but only whether it is higher priced than another of the same general composition.

For this purpose the valuation must be so computed as to include all the elements entering into the cost of a fertilizer as it is delivered to the consumer. These elements differ with the conditions of sale. Sales to consumers fall chiefly into two classes: (1) Those made directly from the jobber or manufacturer to the consumer, without the service of a local agent or dealer. Such sales are usually in relatively large lots for cash. (2) Those made through a local agent or dealer. These are most commonly made in relatively small lots and often with arrangements for deferred payments.

In some States, the valuations are so made as to represent sales only of the former class. In Pennsylvania, however, the principal volume of sales is of the second class, and the method of valuation has, therefore, included the additional cost elements involved in this mode of sale. The several cost elements or factors may conveniently be grouped as follows:

1. The wholesale cost of the ingredients.
2. The jobbers' gross profit on the sale of the ingredients; this includes office expenses, advertising, losses, etc.; for the purpose of the present computation it may be assumed that the sum of this gross profit and the wholesale cost of the ingredients, is equivalent to the retail price of the single ingredients near the wholesale markets in ton lots of original packages for cash.
3. The expense and profit of mixing: This item applies only to complete fertilizers, rock and potash, and ammoniated rock; not to dissolved or ground bone, or to dissolved rock.
4. The expense and profit of bagging.
5. Agents' commission: This item includes not only the commission proper, but every advance in price due to the sale of the goods through an agent in small quantities on time, rather than directly to the consumer in ton lots for cash.

6. Freight from the wholesale market to the point of delivery.

The valuations for 1914 are based:

1. Upon the wholesale prices from September 1, 1913, to March 1, 1914, of the raw materials used in fertilizer manufacture, the quotations of the New York market being adopted for all materials except acidulated phosphate rock and ground bone.

2. Upon an allowance of 20 per cent. of the wholesale prices, above mentioned, to cover jobbers' gross profit.

By adding the 20 per cent. allowed for jobbers' gross profit to the wholesale price of the several raw materials, the retail price in original packages at the jobbers' warehouse is obtained.

Since the amount of the several valuable fertilizing constituents in the various raw materials is known, it is a simple matter to determine the corresponding retail value per pound of the valuable fertilizing constituents yielded by each raw material. A schedule of these pound values affords a convenient basis of computation of the value per ton of various fertilizers, whose composition is ascertained by analysis.

The values assigned, for the present, to the other elements in the cost of the fertilizer at the point of delivery are:

3. For mixing, $1.00 per ton.

4. For bagging, $1.00 per ton, in all cases except those in which the article was sold in original packages; the cost of the package being, in such case, included in the wholesale price.

5. For agents' commission, 20 per cent. of the cost of the goods f. o. b. at the jobbers' or mixers' warehouse.

6. For freight, $2.00 per ton; the cost of the freight in lots of twelve tons or over, from the seaboard to Harrisburg, averaging $1.88 per ton.

The following valuation of dissolved South Carolina rock illustrates the method:

Phosphoric Acid.	%	Weight per ton.	
Available	14.00	280 lbs. at 3c,	$8.40
Insoluble,	1.00	20 lbs. at 1½c,	.30
Retail cash value of ingredients,			8.70
Bagging,			1.00
Cash value of goods ready for shipment,			9.70
Agents' commission, 20 per cent.,			1.94
Freight,			2.00
Commercial value per ton,			$13.64

It is not to be expected, of course, that the valuations thus computed will precisely represent the fair price to be charged for a brand in each locality and in every transaction. Market conditions,

competition, distance from factory, all introduce minor variations. Nevertheless, to make the approximation reasonably close the average valuation of a given class of goods ought to agree closely with its ascertained average selling price. Whenever such an agreement is no longer obtained by the use of a schedule, it is evident that the schedule of retail values of the constituents, or the added allowances for mixing, etc., requires revision.

It is needful to note here another factor greatly affecting the practical accuracy of these approximations. Their computation would offer little difficulty and their usefulness be far greater, if, by the ordinary methods of analysis, the exact nature of the ingredients used to supply the several fertilizer constituents, were capable of certain determination. This is, however, possible to-day to only a limited extent. The valuations are therefore based in general on the assumption that the fertilizers are uniformly compounded from high quality ingredients, such as are commonly employed in the manufacture of fertilizers of the several classes. Consumers should carefully avoid the error of accepting such valuations as infallible; they are not designed to be used for close comparisons of single brands, but only to indicate whether the price asked for a fertilizer is abnormal, assuming good quality for the ingredients used. From this it is clear that, *except as high freights may require, the selling price of a brand should not far exceed the valuation; but that a fertilizer may be made of inferior materials and yet have a high valuation.*

The valuations used during 1913 have been modified for use during 1914 in accordance with the changes in wholesale prices of fertilizing ingredients and to make the valuations more closely follow the selling price.

The following comparative statement shows the valuations and selling prices of the several classes of fertilizers during 1909 to 1913.

Fertilizers.	Number of samples.	Valuation.	Selling price.	Difference of valuation from selling price.
Spring, 1909.				
Complete,	426	$25.31	$24.88	—.43
Rock-and-potash,	111	15.94	16.98	—1.20
Dissolved bone,	8	21.57	22.25	—.68
Ground bone,	24	30.28	30.70	—.42
Dissolved rock,	33	13.62	14.76	—1.14
Fall, 1909.				
Complete,	255	22.25	22.07	.14
Rock-and-potash,	92	15.50	16.10	—.60
Dissolved bone,	3	22.85	24.50	—1.65
Ground bone,	26	28.71	29.39	—.68
Dissolved rock,	41	14.02	13.86	.16

Fertilizers.	Number of samples.	Valuation.	Selling price.	Difference of valuation from selling price.
Spring, 1910.				
Complete,	436	26.63	25.26	1.37
Rock-and-potash,	123	16.08	17.16	—1.08
Dissolved bone,	8	21.47	22.17	—.70
Ground bone,	24	30.27	30.19	.08
Dissolved rock,	47	14.00	14.56	—.56
Fall, 1910.				
Complete,	294	22.24	21.76	.48
Rock-and-potash,	109	16.34	16.38	—.04
Dissolved bone,	4	25.70	25.80	—.10
Ground bone,	29	31.10	29.98	1.12
Dissolved rock,	32	14.15	14.01	.14
Spring, 1911.				
Complete,	485	25.95	24.97	.98
Rock-and-potash,	129	15.99	17.05	—1.06
Dissolved bone,	6	23.82	20.33	3.49
Ground bone,	23	31.47	30.93	.54
Dissolved rock,	51	14.86	15.83	97
Fall, 1911.				
Complete,	292	22.33	21.73	.60
Rock-and-potash,	129	16.07	16.25	—.18
Dissolved bone,	3	21.51	24.88	—3.37
Ground bone,	25	31.18	31.17	.01
Dissolved rock,	42	13.78	14.00	.22
Spring, 1912.				
Complete,	470	27.24	27.64	.40
Rock-and-potash,	137	16.26	18.27	2.01
Dissolved bone,	4	18.92	20.94	2.02
Ground bone,	24	33.26	32.81	.55
Dissolved rock,	43	14.20	14.69	.49
Fall, 1912.				
Complete,	288	23.49	22.16	1.33
Rock-and-potash,	124	16.55	15.88	.67
Dissolved bone,	4	25.50	23.80	1.70
Ground bone,	28	34.84	30.55	4.29
Dissolved rock,	42	13,92	13.80	.12
Spring, 1913.				
Complete,	531	26.44	25.08	1.36
Rock-and-potash,	140	16.52	16.75	—.23
Dissolved bone,	4	21.63	18.55	3.08
Ground bone,	32	32.50	33.86	—1.36
Dissolved rock,	43	14.25	13.96	.29
Fall, 1913.				
Complete,	292	24.36	21.92	2.44
Rock-and-potash,	140	16.85	16.25	.60
Dissolved bone,	6	24.26	24.75	—.49
Ground bone,	36	32.63	31.12	1.51
Dissolved rock,	40	13.70	13.51	.19

The following statement from the weekly reports of the Oil, Paint and Drug Reporter, of New York City, shows the average wholesale

prices of fertilizer raw materials from September 1, 1912, to March 1, 1913, and from September 1, 1913, to March 1, 1914.

Substance	Amount Priced.	Average price Sept. 1, 1912, to March 1, 1913.	Average price Sept. 1, 1913, to March 1, 1914.	Prices Sept.-March, 1913-1914, in per cent. of prices of 1912-1913.
Sulphate of ammonia,	Cwt.,	2.560	2.290	89.[illegible]
Nitrate of soda,	Cwt.,	2.560	2.290	89.[illegible]
Dried blood, H. G.,	Unit (20 lbs.),	2.736	3.110	113.[illegible]
Concentrated tankage,	Unit (20 lbs.),	2.40	2.76	115.[illegible]
Rough bone,	Ton,	23.25	23.25	100.[illegible]
Bone meal,	Ton,	29.25	29.25	100.[illegible]
Fish guano, dry,	Unit (20 lbs.),	3.113	3.31	106.[illegible]
Phosphate rock, Tenn.,	Ton,	5.25	5.25	100.[illegible]
Acid phosphate,	Unit (20 lbs.),	.525	.525	100.[illegible]
Double manure salt,	Ton,	24.95	24.97	100.[illegible]
Sulphate of potash,	Ton,	46.80	47.156	100.[illegible]
Kainit,	Ton,	8.45	8.425	99.[illegible]
Muriate of potash,	Ton,	38.55	38.356	99.5
Sulphuric acid, 66 degrees B.,	Cwt.,	1.05	1.05	100.[illegible]

In ammoniates such as dried blood and fish guano, the unit is of ammonia, of which 82.25 per cent is nitrogen; in acid phosphate the unit is of phosphoric acid (phosphorus pentoxid).

There has been a decided rise in the prices of some of the organic ammoniates, and a decrease in the cost of nitrogen from inorganic sources.

Phosphate rock, sulphuric acid and acid phosphate show little change in prices compared with last year.

According to the *Oil, Paint and Drug Reporter,* (Vol. 85, No. 3, Jan. 19, 1914) the German syndicate has fixed the schedule* of wholesale prices (per ton of 2,000 lbs. net) for 1914 as follows:

Muriate of potash, 80 to 85 per cent.—80 per cent., ...	$39.07
Muriate of potash, min. 95 per cent.—80 per cent., ...	40.75
Muriate of potash, min. 98 per cent.—80 per cent., ...	41.65
Sulphate of potash, 90 @ 95 per cent.—90 per cent., ...	47.57
Sulphate of potash, min. 96 per cent.—90 per cent., ...	48.14
Double manure salt, 48 @ 53 per cent.—48 per cent., ...	25.04
Manure salt, min. 20 per cent., actual potash in bulk, ...	13.58
In bags of 200 lbs. net; no charge for bags	
Hardsalt, min. 16 per cent., actual potash in bulk, ...	10.87
Kainit, min. 12.4 per cent., actual potash in bulk, ...	8.36

*This schedule is in effect after a fixed date, before which these base prices are subject to a considerable discount.

Potash Imports: The Bureau of Foreign and Domestic Commerce states that the potash salt imports for 1912 and 1913 were as follows:

	1912.	1913.
Muriate (lbs.),	483,744,601	450,731,995
Sulphate (lbs.),	99,626,582	95,748,145
Kainit (tons),	485,132	466,795
Manure salts (tons),	192,738	171,802

Composition of Raw Materials.—In order to form a correct idea of the cost per pound of the fertilizer constituents of these materials, it is needful to determine their composition or, in other words, the quantities of valuable constituents each contains. The following table shows the composition of raw materials used in the manufacture of fertilizers. Few analyses of these materials, with the exception of ground bone and dissolved rock, have been made in Pennsylvania. The figures in the following table include the averages of the results of analyses made in Connecticut, New Jersey and Massachusetts during the past year, except in the case of ground bone and dissolved rock phosphates, where Pennsylvania results alone are included.

Composition of Non-Acidulated Fertilizer Ingredients, (Per Cent.)

Substance.	Number of samples analyzed.	Nitrogen.	Potash.	Total phosphoric acid.
Sulphate of ammonia,	9	20.62	.....	.....
Nitrate of soda,	62	15.32	.....	.....
Dried blood,	13	10.71	.....	.....
Ground bone.	58	3.61	.....	22.86
Tankage,	47	6.256	.....	14.25
Ground fish,	39	8.056	.....	6.496
Cottonseed meal,	295	6.58	.....	.....
Sulphate of potash,	13	.....	49.61	.....
Muriate of potash,	71	.....	50.93	.....
Kainit,	22	.....	13.75	.....
Double sulphate of potash and magnesia,	7	.....	27.174	.....

Composition of Acidulated Fertilizer Ingredients. (Per Cent.)

	Number of samples.	Total phosphoric acid.	Insoluble phosphoric acid.	Nitrogen.
Dissolved bone,	10	14.91	4.51	1.59
Dissolved phosphate rock,	79	15.60	97	.....

Cost per Pound of Fertilizer Constituents.—With the composition of these raw materials and their price per ton, hundred weight, or other unit of measure as a basis, the wholesale cost per pound of the valuable constituents can readily be calculated. In many cases the ammoniates are quoted "per unit of ammonia," the term unit being equivalent to per cent.; in goods sold by the ton of 2,000 lbs., the unit is equal to 20 lbs., and 20 lbs. of ammonia contain 16.47 lbs. of nitrogen.

In the case of refuse bone-black, unacidulated, the mean, 28.25 per cent. of phosphoric acid, is assumed to represent the average material on the market.

Phosphate rock is sold by the ton of 2,240 lbs., and on the basis of the bone phosphate of lime it contains, with drawbacks for injurious constituents. Bone-phosphate of lime contains 45.8 per cent. of phosphoric acid; therefore, each per cent. of bone phosphate in a long ton is equivalent to 22.4 lbs., and contains 10.26 lbs. of phosphoric acid.

In the wholesale trade, dried blood, azotine, concentrated tankage and hoof meals are usually sold on the basis of ammonia, disregarding the phosphoric acid present.

Insoluble phosphoric acid in dissolved rock is likewise omitted from consideration, contracts being based solely upon the "available" phosphoric acid; nor in rock phosphates is any claim made for the small quantities of nitrogen and potash they contain, nor in dissolved bone for the potash present.

Under these conditions, the wholesale cost per pound in New York of the valuable constituents of such materials as furnish but a single fertilizing element, these materials being assumed to be in the state of preparation and in the packing in which the manufacturer purchased them, are given in the following table; also a figure representing a fair retail price at the factory, the materials having undergone no change in treatment or packing and the allowance for expenses and profit in retailing being 20 per cent.

Wholesale Cost per Pound of Fertilizing Constituents, New York.

1. Ingredients Supplying One Constituent.

Materials.	Constituents Valued.	Wholesale price. Cents.	Wholesale price plus 20 per cent. Cents.
Sulphate of ammonia,	Nitrogen,	14.54	17.45
Nitrate of soda,	Nitrogen,	14.94	17.93
Dried blood,	Nitrogen,	18.88	22.66
Concentrated tankage,	Nitrogen,	16.75	20.10
Phosphate rock, Tenn., 78 per cent.,	Phosphoric acid, (total)*	.66	.79
Acid phosphate,	Phosphoric acid, available,	2.62	3.14
Double sulphate of potash and magnesia,	Potash,	4.60	5.50
Sulphate of potash,	Potash,	4.74	5.69
Kainit,	Potash,	3.06	3.67
Muriate of potash,	Potash,	3.76	4.41

*The prices of phosphate rock are f. o. b. at the respective points of shipment, not New York. The prices for potash are taken from the schedule of the syndicate, and those of the remainder from the Oil, Paint and Drug Reporter.

The quotations for bone are given without specific reference to quality, so that it is impossible, from these data, fairly to apportion their several wholesale values to the nitrogen and phosphoric acid contained in this material. As compared with tankage, the general tendency is to assign a higher commercial rating to the phosphoric acid in bone, and to the nitrogen, a rating not very different from that given in tankage.

In former years, the value assigned to the bone nitrogen has been the same as that quoted on crushed tankage, c. a. f. Baltimore. In later years, quotations for both crushed tankage and ground tankage have not been available, and for that reason, the value of bone nitrogen is based upon the quotations for concentrated tankage.

In earlier years, quotations on ground tankage have been about 5 per cent. in advance of those on concentrated tankage; also quotations on crushed tankage were on an average 12.67 per cent. in advance of those on ground tankage. Increasing the price of concentrated tankage by these percentages, we have $3.27 per unit of ammonia as the value assigned to the nitrogen in bone.

This is equivalent to $3.97 per unit of nitrogen.

The average composition of the ground bone and bone meal samples analyzed last year in Pennsylvania was: Phosphoric acid, 22.86 per cent.; nitrogen 3.61 per cent.

The prepared bone contains less fat and moisture, and often less nitrogen than the ordinary rough bone, but these differences tend, in a measure, to neutralize each other. Assuming for the rough bone quoted in the New York market the same composition as the bone meal sold in Pennsylvania, and for the value of the nitrogen $3.97

per unit, as previously stated, the values per pound of the several constituents would be:

Wholesale Cost per Pound of Fertilizer Constituents, New York.

II. Bone.

Materials.	Constituent Valued.	Wholesale price. Cents.	Wholesale price, plus 20 per cent.
Rough bone,	Nitrogen,	19.85	23.82
	Phosphoric acid,	1.94	2.33
Ground bone,	Nitrogen,	19.85	23.82
	Phosphoric acid,	3.25	3.90

Valuation in Neighboring States.

It is desirable, from all points of view, that the schedules of valuation throughout a district in which similar market conditions prevail, should differ as little as possible. It has been our practice in the past, to conform our schedule to that adopted after very careful cooperative study of the market conditions for each year, by the New England States, New York and New Jersey, except where the peculiar conditions of our markets have been made the valuations diverge too largely from the actual selling prices, as in the case of ground bone and dissolved rock phosphates. The schedules for these States for 1913 and 1914 are as follows:

Trade Values Adopted by the New England States and New Jersey.

	Cents Per Pound.		Values in 1914 in per cent. of those in 1913.
	1913.	1914.	
Nitrogen:			
In nitrates,	18½	16½	89.2
In ammonium salts,	18½	16½	89.2
In dry and fine ground fish and dried blood,	20	22½	112.5
In fine bone and tankage,	19	21½	113.2
In coarse bone and tankage,	15	17½	116.7
In mixed fertilizers,	19	19½	102.6
Phosphoric acid:			
Water soluble,	4½	4½	100.0
Citrate soluble,	4	4	100.0
In fine ground bone and tankage,	4	4	100.0
In coarse bone and tankage,	3½	3½	100.0
In mixed fertilizers, insoluble,	2	2	100.0
Potash:			
In forms free from muriate,	5¼	5	95.2
As muriate,	4¼	4	94.1

Valuations in Pennsylvania.

For reasons stated on the previous page, the New England schedule has been followed in the case of mixed fertilizers and dissolved bones.

In the case of the dissolved rocks, the wholesale prices of raw materials used in their manufacture and of the available phosphoric acid itself, having shown no material change, the values used in the Pennsylvania schedule for 1913 are continued for use during the present year.

With respect to the potash and nitrate salts, the experience of recent years has shown a growing increase in the proportion of the official samples that represent direct cash purchases in large quantities. The result has been that the commercial valuations, based upon the conditions and costs of sale in small quantities, through local agents and on time, came to be, in a large fraction of the cases represented by these salts whose analyses are reported in the miscellaneous group, strikingly higher than the selling prices quoted. *For this reason, it has appeared needful to proceed, hereafter, upon the assumption that all potash and nitrate salts sold unmixed as such, have been purchased at what are virtually jobbers' prices plus freight, and to adopt corresponding pound values. In the case, however, of potash and nitrogen in mixed fertilizers, the computation will be made as heretofore, upon the assumed basis of sale on time, in small quantities and through local dealers.*

Buyers who are interested in the comparative jobbing prices of other materials, will find the data in the preceding pages.

The entire schedule adopted for use in this State is presented in the following table.

Pennsylvania Schedule of Values for Fertilizer Ingredients, 1914.

	Cents Per Pound.
Nitrogen:	
In ammonia salts,	16½
In nitrates,	16½
In meat, dried blood, etc.,	22½
In mixed fertilizers,	19
In fine ground bone and tankage,	17
In coarse bone and tankage,	15
Phosphoric Acid:	
Available, in bone fertilizers,	4¼
Available, in rock fertilizers,	3
Insoluble in ammonium citrate, in bone fertilizers,	2
Insoluble in ammonium citrate, in rock fertilizers,	1½
In fine bone, tankage and fish,	3½
In coarse bone and tankage,	2½
Potash:	
In high grade sulphate of other forms free from muriate,	5
As muriate,	4

Potash in excess of that equivalent to the chlorin present, will be valued as sulphate, and the remainder as muriate. The analytical tables frequently show little or no potash reported as sulphate, although the full percentage guaranteed is reported present, and although the manufacturer has guaranteed that it was introduced as sulphate. This discrepancy between analytical report and guaranty may be due to the rule of practice stated in the first sentence of this paragraph, and not to any act of bad faith on the part of the manufacturer. The rule of practice is adopted chiefly for the reason that plants injured, like tobacco and sometimes potatoes, by an excess of chlorin, is injured equally, whether the chlorin be introduced as muriate of potash, as common salt, or as magnesium chloride. At present prices for the two potash salts, muriate and sulphate, the only weightly reason for introducing the more costly sulphate, is to insure the purchaser of tobacco and potato fertilizers against possible injury by chlorin. Under our system of valuation, the manufacturer must exclude chlorin from every source to gain the valuation advantage from his use of sulphate of potash.

In certain cases where specific claim is made by the manufacturer that potash has been added as carbonate, potash in excess of that equivalent to soluble chlorides and soluble sulphates will be valued as carbonate.

Nitrogen in mixed fertilizers will be valued as derived from the best sources of organic nitrogen, unless clear evidence to the contrary is obtained.

Phosphoric acid in mixed fertilizers is valued at bone phosphoric acid prices, unless clearly found to be derived from rock phosphate.

Bone is sifted into two grades of fineness: Fine, less than 1-50 inch in diameter; coarse, over 1-50 inch in diameter.

The result obtained by the use of this schedule does not cover the items of mixing, bagging, freight and agents' commission. To cover these, allowances are made as follows:

For bagging, an allowance of $1.00 per ton on all fertilizers, except when sold in original packages.

For mixing, an allowance of $1.00 per ton on complete fertilizers and rock-and-potash goods.

For agents' commission, an allowance of 20 per cent. is added to the cash value of the goods ready for shipment.

For freight, an allowance of $2.00 per ton on all fertilizers.

FERTILIZERS ANALYSES JANUARY 1 TO AUGUST 1, 1914.

Since January 1, 1914, there have been received from authorized sampling agents two thousand and ninety-four fertilizer samples, of which seven hundred and fifty-one were subjected to analysis. Preference was given to those which have not been recently analyzed. In cases where two or more samples representing the same brand were received, equal portions from several samples were united, and the composite sample was subjected to analysis.

The samples analyzed group themselves as follows: 505 complete fertilizers, furnishing phosphoric acid, potash and nitrogen; 4 dissolved bones, furnishing phosphoric acid and nitrogen; 131 rock-and potash fertilizers, furnishing phosphoric acid and potash; 30 acidulated rock phosphates, furnishing phosphoric acid only; 23 ground bones, furnishing phosphoric acid and nitrogen, and 58 miscellaneous samples, which group includes substances not properly classified under the foregoing heads.

The determinations to which a complete fertilizer is subjected are as follows: (1) Moisture, useful for the comparison of analyses, for indication of dry condition and fitness for drilling, and also of the conditions under which the fertilizer was kept in the warehouse. (2) Phosphoric acid—total and insoluble; the latter is, that portion not soluble in water nor in warm ammonium citrate solution (a solution supposed to represent the action of plant roots upon the fertilizer), which is assumed to have little immediate food value. By difference, it is easy to compute the so-called "available" phosphoric acid. (3) Potash soluble in water—most of that present in green sand marl and crushed minerals, and even some of that present in vegetable materials such as cotton-seed meal, not being included because insoluble in water even after long boiling. (4) Nitrogen—This element is determined in such manner as to ascertain its *total* quantity and also, beginning with the present season, the quality of the organic nitrogenous material present in the finished fertilizer. The fertilizer is washed thoroughly with water, which removes the nitrates, ammonium salts and almost all of the cyanamid nitrogen, and the soluble organic nitrogenous materials. These are not separately determined, but are grouped under the name *"water-soluble nitrogen."* The quantity of *water-insoluble nitrogen* is directly determined, and by difference between its amount and the total nitrogen, the water-soluble nitrogen is calculated. Another portion of water-insoluble material* is treated with alkaline potassium permanganate, which

*This determination has been omitted in all cases where the insoluble nitrogen is only .2 per cent. or less.

attacks the nitrogenous organic substances present, and converts the more active portion into ammonia, which is distilled off, determined, and its nitrogen calculated as *"active insoluble nitrogen."* The *"inactive insoluble nitrogen"* is then computed by subtracting the active insoluble from the total insoluble nitrogen. The term "available nitrogen" as used in this report, is the sum of the water-soluble and the active insoluble nitrogen. It is equivalent to the total nitrogen less the inactive insoluble nitrogen. In high grade organic nitrogenous materials, among which, from its behavior with this treatment, must be included horn meal, the percentage of inactive nitrogen in the insoluble nitrogen is usually under 40 per cent; and the ratio of inactive to active insoluble nitrogen in such materials is usually less than 60:100. On the other hand, in the case of low-grade nitrogenous materials, the proportions of inactive nitrogen are much higher. The separations effected by these methods are therefore of great value in distinguishing whether the insoluble nitrogen is derived from high grade materials, or from low grade substances such as garbage tankage, peat, mora meal, unacidulated hair, leather, etc. There is, however, one fertilizer ingredient rapidly coming into use, whose presence may lead to erroneous conclusion, if judgment is based solely upon the facts ascertained by the foregoing method, namely, cyanamid. This substance contains from 13 to 16.5 per cent. of nitrogen, of which 12 to 14.7 per cent. is soluble in water, by the mode of treatment used in the alkaline permanganate method; and, of the 1.0 to 1.7 per cent. of water-insoluble nitrogen, less than one-fifth is active; so that the ratio of inactive to insoluble nitrogen is about 80:100. Owing to its tendency to reduce the availability of the phosphoric acid in acid phosphate mixtures, limited quantities only of this ingredient can be used advantageously in mixed fertilizers. Nevertheless, in cases where low grade sources of nitrogen are indicated by the foregoing method, it would be needful to determine, by supplementary tests, whether or not cynamid may be present to account for an undue proportion of inactive, insoluble nitrogen, before concluding that such excess of inactive nitrogenous material is attributable to low-grade nitrogenous constituents. It is desirable to keep in mind at this point the fact also that certain widely used low-grade nitrogenous substances, such as garbage tankage, peat and mora meal, are not included in the list of substances whose presence requires specific declaration under Section 4 of the Fertilizer Act. (5) CHLORIN—this determination is made to afford a basis for estimating the proportion of the potash that is present as chlorid or muriate, the cheaper source. The computation is made on the assumption that the chlorin present, unless in excess, has been introduced in the form of muriate of potash; but doubtless there are occasional exceptions to this rule. One part of chlorin combines

with 1.326 parts of potash to form the pure muriate; knowing the chlorin, it is, therefore, easy to compute the potash equivalent thereto. (7) In the case of ground bone, the state of sub-division is determined by sifting through accurately made sieves; the cost of preparation and especially the promptness of action of bone in the soil depend very largely on the fineness of its particles, the finer being much more quickly useful to the plant.

The legislation of 1909 has made needful, some additional tests. Section 4, of the Act of May 1, 1909, prohibits the sale of "pulverized leather, hair, ground hoof, horns, or wool waste, raw, steamed, roasted, or in any form, as a fertilizer, or as an ingredient of a fertilizer or manure, without an explicit statement of the fact." All nitrogenous fertilizers have, therefore, been submitted to a careful microscopic examination, at the time of preparing the sample for analysis, to detect the presence of the tissues characteristic of the several materials above named. The act of April 23, 1909, makes it unlawful to use the word "bone" in connection with, or as part of the name of any fertilizer, or any brand of the same, unless the phosphoric acid contained in such fertilizer shall be the product of pure animal bone. All fertilizers in whose name the word "bone" appears, were therefore examined by microscopic and chemical methods to determine, so far as possible with present knowledge, the nature of the ingredient or ingredients supplying the phosphoric acid. It is a fact, however, well known to fertilizer manufacturers and which should be equally understood by the consumer, that it is, in certain cases, practically impossible to determine the source of the phosphoric acid by an examination of the finished fertilizer. The microscope shows clearly the structure of raw bone, but does not make it possible to discriminate between thoroughly acidulated bone and acidulated rock. The ratio of nitrogen to phosphoric acid in a raw bone—and only such bone as has not been deprived of any considerable proportion of its nitrogenous material by some manufacturing process can properly be called "pure animal bone"—is about 1:8; in cases where the ratio of nitrogen to phosphoric acid exceeds 8, it is clear that part, at least, of the phosphoric acid has been supplied by something else than pure animal bone; but, inasmuch as nitrogen may have been introduced in some material other than bone and no longer detectible by the microscope, the presence of nitrogen and phosphoric acid in the proportions corresponding to those of bone is not proof positive that they have been supplied by bone. Finally, the differences in the iron and silica content of bone and rock respectively, afford means of distinction useful in some cases; the usefulness of this distinction is limited, however, by the facts that kitchen bone frequently contains earthy impurities rich in iron and silica, and that earthy fillers can legally be used

in fertilizers and are in fact considerably used therein both as "make-weights" and as "conditioners," or materials introduced to improve the drilling qualities of the goods. The fact that the phosphoric acid in bone and rock are identical in character is probably so well known as to require no detailed consideration in this connection.

The law having required the manufacturer to guarantee the amount of certain valuable ingredients present in any brand he may put upon the market, chemical analysis is employed to verify the guaranties stamped upon the fertilizer sacks. It has, therefore, been deemed desirable in this report to enter the guaranty filed by the manufacturer in the office of the Secretary of Agriculture, in such connection with the analytical results that the two may be compared. An unfortunate practice has grown up among manufacturers of so wording the guaranty that it seems to declare the presence in the goods of an amount of valuable constituent ranging from a certain minimum to a much higher maximum; thus, "Potash, 2 to 4 per cent." is a guaranty not infrequently given. In reality, the sole guaranty is for 2 per cent. The guaranteed amounts given for each brand in the following tables, are copied from the guaranties filed by the maker of the goods with the Secretary of Agriculture, the lowest figure given for any constituent being considered to be the amount guaranteed. For compactness and because no essentially important fact is suppressed thereby, the guaranties for soluble and reverted phosphoric acid have not been given separately, but are combined into a single guaranty for available phosphoric acid; in cases where the maker's guaranty does not specifically mention available phosphoric acid, the sum of the lowest figures given by him for soluble and reverted phosphoric acid is used. The law of 1879 allowed the maker to express his guaranty for nitrogen either in terms of that element or in terms of the ammonia equivalent thereto; since ammonia is composed of three parts of hydrogen and fourteen parts of nitrogen, it is a very simple matter to calculate the amount of one, when the amount of the other is given; the amount of nitrogen multiplied by 1.214 will give the corresponding amount of ammonia, and the amount of ammonia multiplied by 0.824 will give the corresponding amount of nitrogen. In these tables, the expression is in terms of nitrogen. The laws of 1901 and 1909 abolished the alternative and required that the quantity shall be given in terms of nitrogen.

Many manufacturers after complying with the terms of the law, insert additional items in their guaranties, often with the result of misleading or confusing the buyer; the latter will do well to give heed to those items only that are given as the law requires and that are presented in these tables;

A summary of the analyses made this season may be presented as follows:

Summary of Analyses Made this Season. (Spring, 1914).

	Complete fertilizer.	Rock and potash.	Dissolved bone.	Dissolved rock.	Ground bone.
Number of analyses,	505	131	4	30	23
Moisture, per cent.,	8.85	9.09	6.89	9.21	5.11
Phosphoric acid:					
Total, per cent.,	9.31	10.63	15.84	15.53	21.34
Available, per cent.,	8.06	9.76	10.45	14.47	.....
Insoluble, per cent.,	1.25	.87	5.39	.84	.....
Potash, per cent.,	5.67	4.77	.....	.....	.....
Nitrogen:					
Total, per cent.,	1.81	.....	2.38	.....	3.08
Available, per cent.,	1.49	.....	1.98	.....	.....
Inactive insoluble, per cent.,	.32	.....	.40	.....	.....
Mechanical analyses of bone:					
Fine, per cent.,	.....	.....	.....	.....	49.00
Coarse, per cent.,	.....	.....	.....	.....	51.00
Commercial valuation,*	$26.93	$15.60	$27.28	$13.71	$30.15
Selling price,*	24.72	16.79	26.25	14.48	31.43

*Dollars per ton.

"For the purpose of indicating more specifically to the eye, cases deficient in guarantee, an asterisk has been affixed in the analytical tables where the ingredient has been found less in quantity than the manufacturer guaranteed. Too great emphasis should not be placed upon very slight deficiencies, because very slight imperfections in mixing and slight variations in analysis are practically unavoidable. The asterisk has been used, therefore, only in cases where the deficiencies amount to 0.2 per cent. or more, except where nitrogen has been guaranteed in amounts not higher than 1.0 per cent. in which case an asterisk has been affixed where the deficiency amounts to 0.1 per cent. or more."

The cases of departure of goods from their guaranteed composition observed this season, including only those cases in which it amounted to two-tenths per cent, or more, were as follows:

Summary of Instances of Deficiency from Guaranty.

	Complete fertilizer.	Rock and potash.	Dissolved bone.	Dissolved rock.	Ground bone.
Deficient in four constituents,	0	0	0	0	0
Deficient in three constituents,	3	.....	.....	.....	.....
Deficient in two constituents,	39	10	.....	3	.....
Deficient in one constituent,	129	25	2	4	11
Total number of samples in which deficiencies occur,	167	35	2	7	11

The cases of deficiency noted during the past eleven seasons in the composition of goods as compared with their guaranties, expressed in percentage of the total number of goods of each class analyzed, are as follows:

Percentage of Deficiency 1909-1914.

	Spring, 1909.	Fall, 1909.	Spring, 1910.	Fall, 1910.	Spring, 1911.	Fall, 1911.	Spring, 1912.	Fall, 1912.	Spring, 1913.	Fall, 1913.	Spring, 1914.
Complete fertilizers,	39.5	46.3	28.9	35.9	45.1	46.9	39.0	36.8	32.3	36.0	33.1
Dissolved bone,	25.0	*	37.5	25.0	16.6	100.00	50.0	50.0	50.0	66.7	50.0
Rock and potash,	36.2	30.4	25.2	37.0	27.1	43.4	33.6	38.9	26.4	46.0	26.7
Dissolved rock,	33.3	19.5	4.3	6.3	5.9	11.9	12.5	16.7	20.9	22.5	23.3
Ground bone,	20.8	38.4	29.17	27.6	47.8	20.0	29.2	32.1	25.0	22.2	47.8
All classes except miscellaneous,	37.6	39.6	26.5	33.5	38.7	46.0	36.0	35.7	30.4	35.0	32.0

*Only two samples analyzed, for which no guarantees are reported.

A comparison of the average composition of all samples of complete fertilizers for which guaranties are recorded with the average of the corresponding guaranties, for several seasons past, including those of this season, follows:

Average Composition and Guaranty Compared.

	Average composition. Per cent.	Average guaranty. Per cent.
Spring, 1909.		
Phosphoric acid:		
Total,	9.83	8.98
Available,	8.07	7.66
Potash,	5.07	4.89
Nitrogen,	1.67	1.60
Fall, 1909.		
Phosphoric acid:		
Total,	10.13	9.34
Available,	8.27	8.08
Potash,	3.41	3.12
Nitrogen,	1.33	1.26
Spring, 1910.		
Phosphoric acid:		
Total,	9.80	8.80
Available,	8.26	7.62
Potash,	5.20	4.68
Nitrogen,	1.63	1.60
Fall, 1910.		
Phosphoric acid:		
Total,	9.72	8.80
Available,	8.26	7.62
Potash,	5.20	4.68
Nitrogen,	1.63	1.60
Spring, 1911.		
Phosphoric acid:		
Total,	9.86	8.96
Available,	8.31	7.86
Potash,	4.97	4.65
Nitrogen,	1.53	1.54
Fall, 1911.		
Phosphoric acid:		
Total,	9.59	9.09
Available,	8.20	7.87
Potash,	3.63	3.39
Nitrogen,	1.12	1.19
Spring, 1912.		
Phosphoric acid:		
Total,	9.51	8.82
Available,	8.09	7.78
Potash,	5.34	5.05
Nitrogen,	1.56	1.58
Fall, 1912.		
Phosphoric acid:		
Total,	9.90	9.07
Available,	8.28	7.83
Potash,	4.06	3.57
Nitrogen,	1.28	1.30
Spring, 1913.		
Phosphoric acid:		
Total,	9.71	8.92
Available,	8.11	7.37
Potash,	5.41	5.17
Nitrogen,	1.61	1.62
Fall, 1913.		
Phosphoric acid:		
Total,	9.86	9.09
Available,	8.06	7.83
Potash,	4.28	4.27
Nitrogen,	1.47	1.35
Spring, 1914.		
Phosphoric acid:		
Total,	9.31	8.71
Available,	8.06	7.65
Potash,	5.67	5.52
Nitrogen,	1.81	1.69

MATERIALS USED IN FERTILIZERS.

The sampling agents report no case of declaration under the requirements of Section 4 of the fertilizer law, nor has microscopic examination shown any decisive evidence of the presence in any fertilizer of more than accidental traces of any of the substances specified in that section.

On the other hand, the results of the examination of the condition of the nitrogen in the complete fertilizers by the alkaline permanganate method affords much that is suggestive.

To keep the tables down to convenient size, the percentages of active insoluble nitrogen found have been omitted. They can be computed, however, from the figures given, by deducting from the total nitrogen the sum of the soluble and the inactive insoluble nitrogen. The ratio which the active insoluble bears to the inactive insoluble nitrogen being the principal indication the method as here used gives respecting the character of the organic nitrogenous ingredients of the fertilizer, the index letters, 'a', 'b' and 'c' have been affixed to the percentages of inactive insoluble nitrogen, to indicate the ratios between the active and inactive insoluble in the several samples. Cases in which the active constitutes three-fifths or more of the insoluble are marked 'a'; two-fifths to three-fifths, 'b', and less than two-fifths, 'c.' The New England Stations use the terms 'good,' 'doubtful' and 'poor' for these respective classes of cases.

Of the 503 samples examined this season, 83 belong to class 'a', 336 to 'b', and 84 to 'c'.

It is needful to keep clearly in mind the meaning of the index 'c' as thus applied. Its presence does not suffice to indicate that the fertilizer contains no readily available nitrogen, but merely that part or all of the insoluble nitrogen is derived from low-grade sources, barring cases in which cyanamid is one of the fertilizer ingredients. These low-grade materials may be such as are listed in Section 4 of the law, or others in common use, such as garbage tankage, peat or mora meal; and they may, if of animal origin, have had their nitrogenous materials changed almost entirely to an available condition by 'wet mixing,' which has, however, little improving effect upon the nitrogenous constituents of garbage tankage and mora meal, and little more upon those of peat.

The use of such low-grade materials is either to make the fertilizer less likely to become sticky or lumpy, or to supply nitrogen from materials that would otherwise be wholly thrown to waste. The use of 'conditioners' for the former purpose is, in itself, desirable rather than objectionable; but becomes obnoxious and unjust when the

nitrogen they contain in unavailable form is made the basis of a charge at high rates to the buyer. The use also of low-grade and therefore cheap nitrogen supplies whose nitrogen has, by chemical treatment, been made useful for plant-food, is laudable provided the materials are sold for what they are, instead of being sold at the prices of the nitrogen in high-grade nitrogenous ingredients.

In cases where the inactive insoluble nitrogen forms a large fraction of the total nitrogen, is marked by the index 'c,' the guaranty does not exceed the available nitrogen by an amount equal to most of the 'inactive,' and the selling price, corrected for freight difference, is not considerably less than that asked for fertilizers of like general composition but supplying nitrogen derived from high-grade goods such as bear the index 'a' or even 'b,' there is reason to believe that the buyer is being subjected to unfair treatment.

Section 1 of the Fertilizer Law of 1909 requires that the guaranty for a fertilizer shall state 'the percentage such fertilizer contains of nitrogen in an available form.' It is, however, by no means clear that the term 'available,' as used in the law, means precisely the same thing that is meant by that term when used to designate the sum of the water-soluble and active insoluble nitrogen, as determined by the present method. For some nitrogenous fertilizer ingredients always regarded as of high grade, such as dried blood, meat tankage, and cottonseed meal, contain considerable fractions of inactive insoluble nitrogen when examined by this method. Until further notice, therefore, the law will not be construed to require that the amount of nitrogen guaranteed shall not exceed that present in a form that will appear as 'available' by the alkaline permanganate method now in use.

In many of this season's samples, however, the quantity of nitrogen thus available is found equal to the percentage guaranteed. On the average, the 'available' nitrogen found was 1.49 per cent. the total, 1.81, that guaranteed, 1.69 per cent.

ORGANIZATION OF THE WORK.

The work of the season has been performed under my direction as follows:

The nitrogen determinations by Walter Thomas, B. S., and Ralph C. Bathgate, B. S.; the total phosphoric acid, by F. J. Holben, B. S.; the insoluble phosphoric acid and moisture, by H. D. Edmiston and Bruce L. Caldwell, B. S.; the potash, by D. H. Bredt, B. S.; the chlorin, by Chas. Kern; the computations, by M. Verna Bryce and others. Mr. E. S. Erb, M. S., had charge of the reception and preparation of the samples, and immediate supervision of the analytical work. To all of these assistants the writer is indebted for loyal aid.

COMPLETE

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	ALLENTOWN MANUFACTURING CO., ALLENTOWN, PA.		
1081	High Grade Potato Phosphate, ...	W. H. Yoder, Trexlertown, ...	11.48
	AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK.		
924	†Ammoniated Phosphate and Potash, ...	Zehner Bros., Bloomsburg, ...	8.97
2047		New Providence Coal Co., New Providence.	
241	†High Grade Potash Compound, ...	Diehl, Omwake & Diehl, Chambersburg.	9.36
399		H. Keefer, Pine Grove, ...	
437		Union Coal & Supply Co., Union City.	
1735	Ideal Garden Manure, ...	Audor Ludwig, Milford, ...	8.51
722	Keystone Grape Special (Sulphate), ...	Keystone Grape Co., North East, ..	7.10
944	†Lion Crop Grower, ...	Billing & Keldar, New Albany, ...	10.16
1743		James Dewalt, Bethlehem R. D. 1,	
1978		J. H. Reed, Cressona, R. D. 1, ...	
957	No. 1 Top Dressing, ...	C. S. Richards, Ranson, ...	7.39
1866	Old Reliable, ...	S. H. Wolf, Stevens, R. D., ...	7.40
76	†Special Potash Mixture, ...	E. J. Hutchinson, Polk, ...	10.90
317		H. L. Lindner, Milton, ...	
1255		Geo. Iffts & Son, Evans City, ...	
786	†Superior Compound, ...	Paxton Flour & Feed Co., Bowmansdale.	9.20
1206		Zehner Bros., Bloomsburg, ...	
1935		Wm. M. Holbert, Warrington, ...	
402		R. W. Daub, Muir, ...	
841	†10% Potash Mixture for Potatoes, ...	C. R. Rosenberger, Colmar, ...	7.76
991		Houch & Henry, New Berlinville, ..	
1734	Top Dresser for Grass, ...	Audor Ludwig, Milford, ...	7.49
1929		John B. Buckham, Newtown, ...	
282	†Bradley's Bay State, ...	Eli Reiner, Flicksville, ...	8.44
984		F. F. Dreibelbis, Virginsville, ...	
1588		Jas. E. Lynch, Friendsville, ...	
79	†Bradley's B. D. Guano, ...	Shultz & Pardoe, Franklin, ...	10.87
281		Eli Reiner, Flicksville, ...	
304		R. C. King, Ulster, ...	
1254	Bradley's B. D. Sea Fowl Guano, ...	Geo. Iffts & Son, Evans City, ...	11.90
303	†Bradley's Greyhound Fertilizer, ...	R. C. King, Ulster, ...	8.12
857		Wm. C. Ball, Media, ...	
1689		B. F. Horting, Newport, ...	
1201	†Bradley's King Phillip, ...	F. W. Hagenbuck, Danville, R. D. No. 4.	9.94
1503		G. J. Heckman, Dalton, ...	
1753		Geo. R. Andrews, Enon Valley, ...	
1589	Bradley's Maize Producer, ...	Jas. E. Lynch, Friendsville, ...	9.60
1253	Bradley's New Method Fertilizer, ...	Geo. Iffs & Son, Evans City, ...	13.40
1504	Bradley's New Rival Fertilizer, ...	Geo. J. Heckman, Dalton, ...	8.47
80	†Bradley's Niagara Phosphate, ...	Shultz & Pardoe, Franklin, ...	9.01
283		Eli Reiner, Flicksville, ...	
1587		Simon Kelly, St. Joseph, ...	
23	†Bradley's Superior Compound, ...	Eli Yost, McEwensville, ...	10.30
279		Eli Reiner, Flicksville, ...	
1049	†Bradley's Tobacco Manure (Sulphate), ..	Benj. Stoner, Hellam, ...	7.77
1597		R. J Camp, Tioga, ...	
22	†Bradley's Weymouth Staple Phosphate,	Eli Yost, McEwensville, ...	8.81
291		Athens Milling & Produce Co., Athens.	
1955			
825	†Canton Chemical Baker's Special Wheat,	F. T. Greenwalt, West Newton, ...	10.82
935		H. F. Gump & Son, Everett, ...	
1085	Corn and Grass Mixture.	Mrs. J. H. Case, Riverside, ...	
1317	†Canton Chemical C. C. C. Special Compound.	Geo. F. Hartman, Centre Valley, ..	8.78
1963		W. B. Winey, Middleburg, ...	
982	†Canton Chemical Eagle Phosphate, ...	King Bros., Uniontown, ...	9.50
1320		F. F. Dreibelbis, Virginsville, ...	
1144	†Canton Chemical Harrow Brand Crop Grower.	W. B. Winey, Middleburg, ...	9.95
1762		Wm. Gates Est., Kittanning, ...	
		W. E, Weley, Stewartstown, ...	

†Composite sample.

FERTILIZERS.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs., at point of selection.
Available.		Insoluble.	Total.		Present as Muriate.	Present as Sulphate.	Total.		Water Soluble.	Available.	Inactive Insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
6.04	4.00	1.59	*7.63	8.00	6.93	5.47	12.40	10.00	.72	1.04	§.47	1.51	1.50	31.39	28.00
8.46	8.00	1.20	9.66	9.00	2.58	.....	2.58	2.00	.27	.44	§.12	.56	.41	15.92	18.00 15.00
8.96	8.00	.38	9.34	9.00	10.61	.....	10.61	10.00	1.23	1.42	§.23	1.65	1.65	31.42	27.00 17.00 29.50
9.71	8.00	.16	9.87	9.00	4.27	2.62	6.89	7.00	2.66	3.26	§.37	3.63	3.29	38.28	.....
*7.27	8.00	2.56	9.83	9.00	2.13	5.52	*7.65	8.00	2.84	3.39	‡.27	*3.66	4.11	38.38	35.00
8.41	8.00	1.38	9.79	9.00	7.72	.....	7.72	6.00	1.02	1.38	§.27	1.65	1.65	28.56	28.00 ..... 26.00
7.75	7.00	.60	8.35	8.00	4.27	3.08	7.35	7.00	2.00	3.43	‡.49	3.92	4.11	38.18	35.00
*9.65	10.00	.86	*10.51	11.00	8.81	.....	8.81	8.00	.75	1.07	‡.20	1.27	.82	28.80	27.00
8.83	9.00	.87	*9.70	10.00	6.78	.....	*6.78	7.00	.54	.76	§.26	1.02	.82	24.92	28.00 22.00 26.00
9.68	8.00	.29	9.97	9.00	4.26	.....	4.26	4.00	1 11	1.43	§.28	1.71	1.65	26.22	24.00 24.00 26.00 30.00
5.92	5.00	1.22	7.14	6.00	10.15	.....	10.15	10.00	.98	1.42	§.37	1.79	1.65	27.01	30.00 32.00
8.36	8.00	1.15	9.51	9.00	5.86	.....	5.86	5.00	3.32	4.13	§.46	*4.59	4.94	40.06	33.50 46.00
5.88	5.00	1.07	6.95	6.00	9.88	.....	9.88	10.00	.82	1.25	§.36	1.61	1.65	27.73	27.00 23.00 27.00
9.18	8.00	.41	9.59	9.00	4.12	.....	4.12	4.00	.54	.80	§.24	1.04	.82	22.70	30.00 20.00 23.00
8.80	8.00	.98	9.78	9.00	2.08	.....	2.08	1.50	1.26	1.81	§.47	2.28	2.06	26.34	22.00
7.05	6.00	1.15	8.20	7.00	9.27	.....	*9.27	10.00	2.36	2.81	§.39	3.20	3.29	35.61	36.00 36.00 32.00
8.19	8.00	1.31	9.50	9.00	2.43	.....	2.43	2.00	.77	1.16	§.28	1.44	1.03	22.35	21.00 24.00 21.85
*7.23	8.00	1.34	*8.57	9.00	6.93	3.20	10.13	6.00	.95	1.54	§.57	2.11	2.06	32.48	30.00
8.34	8.00	1.17	9.51	9.00	2.03	.....	2.03	2.00	.68	.79	¶.20	.99	.82	20.00	22.00
*5.65	6.00	2.76	8.41	7.00	5.13	.....	5.13	5.00	.87	1.17	§.21	1.38	1.23	22.81	25.00
8.56	7.00	.47	9.03	8.00	1.95	.....	1.95	1.00	.48	.77	§.28	1.05	.82	20.05	24.00 16.50 20.00
9.39	9.00	.94	10.33	10.00	7.08	.....	7.08	7.00	.49	.80	§.26	1.06	.82	26.05	22.00 25.00
5.09	3.00	1.35	6.44	4.00	4.08	.55	*4.63	5.50	1.17	2.51	§1.34	*3.85	4.53	32.41	36.75 38.10
8.62	8.00	1.07	9.69	9.00	7.69	.....	*7.69	10.00	.92	1.21	‡.28	*1.49	1.65	27.96	26.00 29.00 .....
9.57	9.00	1.24	10.81	10.00	2.08	.....	2.08	2.00	.47	.68	§.26	.94	.82	21.09	20.00 20.00 22.00
7.98	8.00	1.99	9.97	9.00	6.76	.....	6.76	6.00	1.65	2.02	‡.24	2.26	2.06	30.24	28.00 28.00
8.04	7.00	.50	8.54	8.00	1.03	.....	1.03	1.00	.47	.76	‡.21	.97	.82	18.19	16.00 18.00
8.26	8.00	1.17	9.43	9.00	1.49	.....	1.49	1.00	.61	.83	§.19	1.02	.82	19.42	19.00 16.50

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or less.

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	AMERICAN AGRICULTURAL CHEMICAL CO.—Continued.		
826	†Canton Chemical Potato Manure,	H. F. Gump & Son, Everett,	7.90
936		Mrs. J. H. Kase, Riverside,	
1143		Wm. Gates Est., Kittanning,	
313	†Canton Chemical Resurgam Guano,	H. L. Lindner, Milton,	11.13
983		F. F. Dreibelbis, Virginsville,	
1319		W. B. Winey, Middleburg,	
75	†Crocker's Complete Manure,	E. J. Hutchinson, Polk,	10.65
993		Houck & Henry, New Berlinville,	
1077		I. W. Gibson, Indiana,	
78	†Crocker's General Crop Fertilizer,	E. J. Hutchinson, Polk,	8.82
1266		W. R. Stoughton, Petrolia,	
2071	Crocker's High Grade Potato Fertilizer,	Morris & Watkins, Blossburg,	8.74
1006	Crocker's High Grade Special,	A. G. Cleaver, Jacksonwald,	10.93
1421	Crocker's Root and Vine,	Linerville Coal, Lime and Cement Co., Linerville.	12.51
768	Crocker's Special Potato Manure,	Detz & Mooney Hwd. Co., Clarion,	8.25
992	Crocker's Universal Grain Grower,	Houck & Henry, New Berlinville,	9.67
77	Crocker's Wheat and Corn Fertilizer,	E. J. Hutchinson, Polk,	7.51
1197	†Detrick's Corn and Oats Fertilizer,	W. S. Leeper & Son, Mt. Pleasant,	10.73
1460		A. M. Austine, Glen Rock, No. 3,	
1685		B. F. Horting, Newport,	
1256	Detricks Kangaroo Komplete Kompound,	Enos Barkey, Evans City,	7.79
1098	East India Fruit Growers' Friend,	C. M. Honeywell, Dallas, No. 1,	9.89
1736	East India Hawk Eye Fertilizer,	Audor Ludwig, Milford,	9.84
1498	East India Improved Compound,	G. A. Spencer, Waverly,	7.80
1496	East India Pilgrim Fertilizer,	G. A. Spencer, Waverly,	9.29
1099	East India 10% Vegetable and Potato,	C. M. Honeywell, Dallas, R. D. 1,	9.67
1097	†East India Tiger Brand,	C. M. Honeywell, Dallas, R. D. 1,	8.36
1497	†Great Eastern English Wheat Grower,	G. A. Spencer, Waverly,	10.48
522		Dennis Dillon, Patton, R. D. No. 2,	
988		A. L. Stetzler, Shoemakersville,	
987	Great Eastern General,	A. L. Stetzler, Shoemakersville,	11.78
521	†Great Eastern High Grade Cabbage Grower.	Dennis Dillon, Patton, R. D. No. 2,	9.97
998		D. F. Clemmer, Barto, R. D. No. 2,	
1737		S. A. Detrick, Melford,	
1469	Great Eastern Northern Corn Special,	Wm. J. Johnston, Sinking Spring,	11.06
1468	Great Eastern Vegetable, Vine and Tobacco Fertilizer.	Wm. J. Johnston, Sinking Spring,	10.90
653	Lazaretto Ammoniated Phosphate,	Gonser Bros., Snydertown,	9.13
654	Lazaretto Crop Grower,	Gonser Bros., Snydertown,	9.19
333	†Maryland O. K. Ammoniated Fertilizer,	J. A. Gass, Sunbury, R. D. 3,	11.29
785		Paxton Flour & Feed Co., Bowmansdale.	
999		Geo. E. Kemp, Landis Store,	
332	†Maryland Special Compound for Potatoes and Tobacco.	J. A. Gass, Sunbury,	9.06
784		Paxton Flour & Feed Co., Bowmansdale.	
2002	Milsom's Corn Fertilizer,	N. H. Conwell, East Millsboro,	7.88
1374	Milsom's Fancy Fruit Grower,	J. Y. Umberger, Lebanon, R. No. 10,	11.86
945	Milsom's Medal Brand Manure,	Billings & Keldar, New Albany,	7.37
735	†Milsom's Wheat, Oats and Barley,	W. B. Denny, Meadville,	10.30
1001		H. H. Weller, Bechtelsville, R. D. No. 2.	
989	†Moro Phillips' C. & G. Complete Fertilizer.	W. F. Ludy, New Hanover,	9.34
1044		Zinn Bros., York,	
1949	Moro Phillips' Farmers' Potato Mixture,	J. J. Tustin, Phoenixville,	7.95
392	Moro Phillips' Special Compound,	A. A. Schwalm, Sec. Grange, Hegins.	8.72
183	†Moro Phillips' Standard Guano,	Neckles Stewart, Shippensburg,	9.42
1872		E. F. Hornberger, Ephrata,	
403	†Moro Phillips' 10% Potato and Vegetable Manure.	R. W. Daub, Muir,	9.81
777		W. M. Woods, Huntsdale, R. D.,	
83	†North Western Diamond Potash Mixture.	C. D. Duffee, Titusville,	9.33
1066		D. B. Wertz, Johnstown,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs., at point of selection.
Available.			Total.				Total.					Total.			
Found.	Guaranteed.	Insoluble.	Found.	Guaranteed.	Present as Muriate.	Present as Sulphate.	Found.	Guaranteed.	Water Soluble.	Available.	Inactive Insoluble.	Found.	Guaranteed.		
6.26	6.00	.97	7.23	7.00	5.51	.....	5.51	5.00	.82	1.03	§.33	1.36	1.23	22.75	26.00 20.00 22.00
8.40	8.00	1.16	9.56	9.00	4.90	.....	4.90	4.00	.52	.71	§.25	.96	.82	22.56	19.00 18.00 21.00
8.77	8.00	.66	9.43	9.00	4.50	.....	4.50	4.00	.53	.71	§.21	.92	.82	22.11	24.00 25.00 22.00
7.49	7.00	1.05	8.54	8.00	2.02	.....	2.02	1.00	.76	.96	§.24	1.20	.82	19.95	20.00 25.00
6.80	6.00	1.19	7.99	7.00	.67	8.84	*9.51	10.00	2.56	3.02	‡.31	3.33	3.29	38.43	35.00
8.31	8.00	1.66	9.97	9.00	4.56	.....	4.56	4.00	1.06	1.36	§.34	1.70	1.65	25.78	24.00
9.04	9.00	1.06	10.00	10.00	4.67	3.66	8.33	7.00	.93	1.08	§.21	1.29	.82	28.96	26.00
9.53	8.00	1.52	11.05	9.00	7.80	.....	7.80	7.00	2.59	3.01	§.46	3.47	3.29	38.08	40.00
8.56	8.00	1.29	9.85	9.00	2.18	.....	2.18	2.00	.57	.73	§.18	.91	.82	19.97	21.00
*7.47	8.00	1.34	8.81	9.00	1.80	.....	1.80	1.50	1.78	2.08	‡.14	2.22	2.06	24.40	25.00
9.41	9.00	1.11	10.52	10.00	3.27	.....	3.27	3.00	.59	.81	§.19	1.00	.82	22.20	22.00 19.50 17.75
*6.92	8.00	2.11	9.03	9.00	3.08	.....	3.08	3.00	1.06	1.53	‡.10	1.63	1.65	23.00	24.00
*8.39	9.00	2.38	10.77	10.00	3.87	3.19	7.06	7.00	.53	.82	§.30	1.12	.82	26.62	23.00
7.95	7.00	2.08	10.03	8.00	1.53	.....	1.53	1.00	.77	1.09	§.27	1.36	.82	21.16	15.00
5.08	5.00	1.68	6.76	6.00	6.27	2.98	*9.25	10.00	1.41	1.63	§.23	1.86	1.65	28.44	27.00
*7.71	8.00	1.76	9.47	9.00	4.77	.....	4.77	4.00	.48	.78	§.22	1.00	.82	22.22	21.00
8.45	8.00	1.17	9.62	9.00	10.10	.....	10.10	10.00	1.15	1.61	§.34	1.95	1.65	32.16	28.00
7.27	6.00	1.02	8.29	7.00	5.43	.....	5.43	5.00	.86	1.16	§.25	1.41	1.23	23.95	21.00
7.86	8.00	1.19	9.05	9.00	2.31	.....	2.31	2.00	.52	.73	§.22	.95	.82	19.52	23.00 22.00 16.55
8.79	8.00	1.38	10.17	9.00	4.93	.....	4.93	4.00	.57	.81	§.24	1.05	.82	23.56	18.05
8.99	9.00	1.15	10.14	10.00	6.66	.....	*6.66	7.00	.68	.93	§.20	1.13	.82	25.76	25.00 23.90 20.00
9.20	9.00	1.48	10.68	10.00	2.28	.....	2.28	2.00	1.85	2.35	§.40	2.75	2.47	29.25	.....
8 06	8.00	1.59	9.65	9.00	3.33	.....	3.33	3.00	1.57	1.92	§.36	2.28	2.06	27.08	.....
8.35	8.00	1.08	9.43	9.00	2.04	.....	2.04	2.00	.65	.91	§.24	1.15	.82	20.66	19.00
8.01	8.00	1.17	9.18	9.00	2.43	.....	2.43	2.00	1.17	1.45	§.25	1.70	1.65	23.00	22.00
8.58	8.00	.94	9.52	9.00	2.74	.....	2.74	2.00	.54	.77	§.25	1.02	.82	20.80	20.00 18.00 19.00
7.94	8.00	1.05	8.99	9.00	10.04	.....	10.04	10.00	1.24	1.46	§.20	1.66	1.65	30.19	32.00 28.00
*8.66	9.00	1.53	10.19	10.00	2.93	.....	2.93	2.00	2.32	2.62	‡.11	2.73	2.47	29.34	27.00
9.63	9.00	1.30	10.93	10.00	5.33	.76	*6.09	7.00	.57	.74	§.15	.89	.82	25.00	22.50
6.58	6.00	1.40	7.98	7.00	8.00	2.00	10.00	10.00	2.26	2.67	‡.28	*2.95	3.29	35.38	34.00
8.41	8.00	1.53	9.94	9.00	2.35	.....	2.35	2.00	.59	.78	§.23	1.01	.82	20.53	21.00
8.08	8.00	1.19	9.27	9.00	2.09	.....	2.09	2.00	.98	1.27	§.30	1.57	.82	22.30	20.00 20.00 17.00
6.46	6.00	1.06	7.52	7.00	5.15	.....	5.15	5.00	.55	1.07	§.46	1.53	1.23	23.49	28.00
9.00	8.00	1.16	10.16	9.00	6.39	.....	6.39	6.00	1.53	1.97	‡.19	2.16	2.06	30.08	23.00
8.47	8.00	.77	9.24	9.00	5.11	.....	5.11	4.00	.51	.70	§.23	.93	.82	22.66	20.00 18.00
8.19	8.00	.96	9.15	9.00	10.38	.....	10.38	10.00	1.23	1.42	§.26	1.68	1.65	30.96	30.00 27.00
*7.35	8.00	1.83	9.18	9.00	10.79	.....	10.79	10.00	1.14	1.43	§.32	1.75	1.65	31.14	29.00 27.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or less.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	AMERICAN AGRICULTURAL CHEMICAL CO., Continued.		
1422	North Western Puritan Phosphate, ...	Farmers' Supply Co., New Castle,..	12.98
1247	Packer's Union Animal Corn Fertilizer,..	Wm. I. Brown, Mill Creek, ...	8.68
394	†Packer's Union Universal Fertilizer, ..	Monroe Savidge, Hegins, ...	10.14
302		Clayton Gerould Est., Milan, ...	
1738		S. A. Detrich, Milford, ...	
996	†Read's Leader Fertilizer, ...	A. B. Penuapacker, Bally, ...	11.84
1126		Harry Kunkle, Trackville, ...	
1907	Reese's Ammoniated Phosphate Mixture,	Harry Wilson, Frazer, ...	10.27
1185	†Reese's Pilgrim Fertilizer, ...	Clark Sherrer, Beatty, ...	9.18
1451	†Reese's Potato Manure, ...	J. F. Goodling, Loganville, ...	10.87
398		H. Keefer, Pine Grove, ...	
858	†Sharpless & Carpenter's Gilt Edge Potato and Tobacco Manure.	Wm. C. Ball, Media, ...	9.85
866		Hilles & Taggart, Norristown, ...	
314		H. L. Lindner, Milton, ...	
1091		Lewis F. Mosser, Mosserville, ...	
236	†Sharpless & Carpenter's Potato, Corn and Truck Guano.	L. A. Geiger, Joanna, ...	8.73
783		Paxton Flour & Feed Co., Bowmansdale.	
1095		Lewis C. Thompson, Pottsville, ...	
554	Sharpless & Carpenter's No. 1 Brand Phosphate.	Emir Knoor, Klingerstown, ...	9.27
237	Sharpless & Carpenter's No. 2 for Grain and Grass.	L. A. Geiger, Joanna, ...	10.61
465	†Susquehanna Ammoniated Phosphate, ...	John T. Myers, Elverson, ...	9.00
847		Jos. L. Brown, Oxford, ...	
846	Susquehanna Animal Phosphate, ...	Jos. L. Brown, Oxford, ...	9.24
203	†Susquehanna Crop Grower, ...	Percy Harman, M. Holly Springs,	10.44
497		J. J. Jacobs, Look Springs, ...	
1475	Susquehanna High Grade Truck Mixture,	J. T. Myers, Moylan, ...	9.60
201	†Susquehanna Potato Phosphate, ...	Percy Harman, Mt. Holly Springs,	
1		The J. N. Getz Co., Lock Haven, ..	9.40
848		Jos. L. Brown, Oxford, ...	
464	†Susquehanna Special Potato and Tobacco Manure.	Jno. T. Myers, Elverson, ...	9.13
2		The J. N. Getz Co., Lock Haven, ..	
1175		Ed. Smaltz, Richland, ...	
788	Tygert Allen's Standard Brand Phosphate,	Paxton Flour & Feed Co., Bowmansdale.	8.61
525	†Wheeler's Special Vegetable Manure, ...	Dennis Dillon, Patton, R. D. 2,....	9.58
269		Clinton Brader, Bethlehem, ...	
1566		S. P. Smith, Nescopeck, ...	
2089	Wheeler's Superior Truck, ...	J. E. Bush, Knoxville, ...	10.75
161	Williams & Clark's Americus Fertilizer,..	C. E. Drake, Athens, ...	9.73
581	†Williams & Clark's Elk Brand, ...	Stewart Weaver, Easton, ...	8.92
1207	†Williams & Clark's Good Grower, ...	Zehner Bros., Bloomsburg, ...	8.24
842		C. R. Rosenberger, Colmar, ...	
1569		H. F. Houseknecht, Seybertsville,..	
1740	Williams & Clark's Great Planet Manure,	Philip Walters, Matamoris, ...	8.79
299	Williams & Clark's Matchless Fertilizer,	L. F. Jones, Milan, ...	10.31
1568	Williams & Clark's Panther Phosphate,..	H. F. Houseknecht, Seybertsville,..	6.78
315	†Williams & Clark's Royal Phosphate,...	H. L. Lindner, Milton, ...	9.69
1198	†Zell's Economizer Phosphate, ...	Miller Bros., Arona, ...	9.83
692		J. D. Spalding, Littletown, ...	
1693		B. F. Horting, Newport, ...	
693	†Zell's Hustler Phosphate, ...	J. D. Spalding, Littletown, ...	10.50
756		Chas. T. Wills & Co., Parnassus,..	
	AMERICAN FERTILIZING CO., BALTIMORE, MD.		
1408	†American Champion Grain Grower, ...	Geo. R. Watson, Embreeville, ...	12.96
712		J. G. Ernest, Somerset, ...	
1883		The Lancaster Co. Farmers' Asso., Manheim.	
1638	American Gilt Edge Truck Mixture, ...	Abraham Hostettler, Johnstown, ...	11.63

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs., at point of selection.
Available.		Insoluble.	Total.		Present as Muriate.	Present as Sulphate.	Total.		Water Soluble.	Available.	Inactive Insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
9.06	9.00	1.09	10.15	10.00	3.73	4.30	8.03	7.00	.91	1.06	¶.25	1.31	.82	28.84	26.00
8.92	9.00	1.25	10.17	10.00	2.89	.....	2.89	2.00	1.91	2.17	§.22	2.39	2.47	27.81	.....
8.14	8.00	1.45	9.59	9.00	4.35	.....	4.35	4.00	.53	.73	§.23	.96	.82	21.92	21.00 22.50 25.00
8.35	7.00	1.19	9.54	8.00	2.07	.....	2.07	1.00	.57	.85	§.26	1.11	.82	19.52	18.00 .....
9.60	9.00	1.36	10.96	10.00	5.00	.....	5.00	3.00	.77	.97	§.20	1.17	.82	24.88	22.00
8.07	8.00	.98	9.05	9.00	4.06	.....	4.06	4.00	.50	.69	§.20	.89	.82	21.08	22.50 19.00
9.74	9.00	1.19	10.93	10.00	6.93	.....	6.93	7.00	.65	.81	§.15	.96	.82	25.93	26.00 28.00
8.41	8.00	.96	9.37	9.00	10.04	.....	10.04	10.00	1.16	1.41	§.24	1.65	1.65	30.00	30.00 28.00 27.00
7.33	6.00	.45	7.78	7.00	5.26	.....	5.26	5.00	.81	1.07	§.37	1.44	1.23	23.77	23.00 21.00 27.00
8.45	8.00	1.70	10.15	9.00	2.73	.....	2.73	2.00	1.05	1.39	§.28	1.67	1.65	23.99	22.00
7.14	7.00	1.15	8.29	8.00	1.09	.....	1.09	1.00	.64	.88	§.17	1.05	.82	18.09	17.00
8.63	8.00	1.19	9.82	9.00	2.68	.....	2.68	2.00	1.06	1.38	§.33	1.71	1.65	24.12	..... 22.00
*8.20	9.00	3.81	12.01	10.00	2.79	.....	2.79	2.00	.93	1.38	§.32	1.70	1.65	25.03	26.00
7.82	7.00	.78	8.60	8.00	1.87	.....	1.87	1.00	.51	.71	§.26	.97	.82	18.85	17.00 .....
6.73	6.00	1.22	7.95	7.00	7.73	1.01	*8.74	10.00	2.25	2.98	§.40	3.38	3.29	36.01	.....
*7.47	8.00	1.16	*8.63	9.00	5.96	.....	5.96	5.00	1.35	1.55	§.24	1.79	1.65	26.53	25.00 27.00 26.00
8.04	8.00	1.01	9.05	9.00	9.84	.....	9.84	10.00	1.25	1.50	§.21	1.71	1.65	30.30	..... 33.00 30.00
8.07	8.00	.87	8.94	9.00	2.62	.....	2.62	2.00	1.21	1.50	§.25	1.75	1.65	23.49	22.00
8.22	8.00	1.28	9.50	9.00	10.46	.....	10.46	10.00	1.28	1.53	§.26	1.79	1.65	31.63	30.00 ....
8.86	8.00	.94	9.80	9.00	4.27	3.85	8.12	7.00	2.01	2.71	‡.39	3.10	3.29	36.72	35.00
*7.37	8.00	2.36	9.73	9.00	9.94	.....	9.94	10.00	1.08	1.35	§.28	1.63	1.65	30.15	28.00
8.16	8.00	1.66	9.82	9.00	4.20	.....	4.20	4.00	.48	.76	§.25	1.01	.82	22.10	25.00 20.00
7.43	6.00	.60	8.03	7.00	5.55	.....	5.55	5.00	.82	1.13	§.28	1.41	1.23	24.00	28.00 22.00
8.95	8.00	.98	9.93	9.00	4.93	2.18	7.11	7.00	2.50	3.13	‡.28	3.41	3.29	36.85	34.65
*7.69	8.00	2.01	9.70	9.00	2.74	.....	2.74	2.00	1.73	2.74	‡.01	2.75	1.65	28.40	24.00
5.33	5.00	1.20	6.53	6.00	7.87	2.15	10.02	10.00	.66	1.31	‡.39	1.70	1.65	28.30	26.00
8.36	8.00	1.01	9.37	9.00	2.59	.....	2.59	2.00	.68	.92	§.22	1.14	1.03	21.14	18.00 26.00
8.03	8.00	1.40	9.43	9.00	2.13	.....	2.13	2.00	.47	.67	§.26	.93	.82	19.68	17.50 16.40
9.11	9.00	1.62	10.73	10.00	3.18	.....	3.18	3.00	.49	.73	§.27	1.00	.82	22.09	19.00 25.00
8.60	8.00	2.47	11.07	9.00	4.42	.....	4.42	4.00	.57	.79	§.25	1.04	.82	23.36	22.00 18.50 17.25
7.49	7.00	1.74	9.23	8.00	4.93	2.90	7.83	8.00	2.43	2.84	§.44	3.28	3.30	36.18	32.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	AMERICAN FERTILIZING CO.—Continued.		
716	†American Special Compound Guano, ...	Milton Deal, Salesbury, ...	11.49
2015		Jones Eavenson, Christiana, ...	
864	Bob White Manure Compound, ...	N. B. Keim & Son, Langhorne, ...	9.57
	ARMOUR FERTILIZER WORKS, INC., BALTIMORE, MD.		
91	†Bone, Blood and Potash Fertilizer, ...	United Hdw. and Supply Co., Titusville.	6.17
901		Beerits Sons & Co., Somerset.	
2084	Celery Special, ...	Keck Sons, Middleburg, ...	7.07
1129	†Crop Grower, ...	Frank Douglass, Indiana, ...	7.71
444		J. F. Chrisholm, McKean, ...	
1180		L. B. Weller, Ligonier, ...	
2085	Five Per Cent. Trucker, ...	Keck & Son, Middleburg, ...	9.56
101	†High Grade Potato Fertilizer, ...	C. L. Kelley, McKeesport, ...	7.25
160		Orwell Grange, Rome, ...	
1792	Lancaster County Tobacco Special, ...	B. & C. S. Spangler, Marietta, ...	5.64
1437	Pennsylvania Potato Special, ...	McDowell & Galloway, Grove City,	8.29
1793	Pennsylvania Tobacco Special, ...	B. & C. S. Spangler, Marietta, ...	6.88
15	†Royal Ammoniated, ...	S. G. Updegraff, Williamsport, ...	9.78
32		C. A. Boyer, Roaring Springs, ...	
1367	Superphosphate, Bone, Blood and Potash,	M. L. Backman, Lebanon, ...	8.31
1463	Wheat and Grass Special, ...	H. W. Rehmeyer, Turnpike, ...	8.33
16	†Wheat, Corn and Oat, ...	S. G. Updegraff, Williamsport, ...	6.37
899		Beerits Sons & Co., Somerset, ...	
	ASSOCIATED CHEMICAL CO., HAGERSTOWN, MD.		
387	Special Mixture, ...	Samuel Savidge, Valley View, ...	2.23
	ATLANTIC FERTILIZER WORKS, BALTIMORE, MD.		
805	Atlantic Arrow Brand Special, ...	J. C. Lebo, Millersburg, ...	5.87
2013	Atlantic Cultivator, ...	A. L. Herr & Bros., Quarryville, ..	6.29
1110	Atlantic Standard Compound, 2-8-2, ...	Josiah Albright, Martins Creek, R. D. No. 1.	7.42
	R. S. AUCKER, SHAMOKIN, PA.		
1298	Grade B Bone and Slaughter House Phosphate.	Geo. R. Hendricks & Son, Selinsgrove.	7.85
	BALTIMORE PULVERIZING CO., BALTIMORE, MD.		
1358	High Grade Potato Guano, ...	J. L. Royer, Myerstown, R. No. 4,	8.13
1359	Special Mixture No. 2, ...	J. L. Royer, Myerstown, R. No. 4,	8.65
1362	Special Potato Mixture, ...	J. L. Royer, Myerstown, R. No. 4,	5.61
	J. H. BARTENSLAGER, STEWARTSTOWN, PA.		
1549	Bartenslager's Champion, ...	J. H. Bartenslager, Stewartstown,	9.56
	J. W. BARWELL, WAUKEGAN, ILL.		
1267	Barwell's Complete Lawn and Garden Fertilizer (Plant Grower and Land Renovator.)	H. J. Klinger, Butler, ...	8.40
	BAUGH & SONS CO., PHILADELPHIA, PA.		
1104	†Baugh's Animal Base and Potash Compound for all crops.	Samuel P. Overfield, E. Stroudsburg.	8.63
1445		Brillinger & Swartz, Emigsville, ..	
199	†Baugh's Ammoniated Soluble Alkaline, ..	S. E. Shenk, Newville, ...	8.50
18		Herman Keebler, Montoursville, ..	
243		D. W. Faust & Sons, Chambersburg,	
192	†Baugh's Complete Animal Base Fertilizer,	Alleson & Fogelsonger, Shippensburg.	9.68
62		John Sieber, Mifflintown, ...	
233		L. A. Geiger, Joanna, ...	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs., at point of selection.
Available.		Insoluble.	Total.		Present as Muriate.	Present as Sulphate.	Total.		Water Soluble.	Available.	Inactive Insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
									.58	.64	¶.14	.78	.41	19.34	16.00 17.00
7.40	7.00	1.59	8.99	8.00	3.11	.....	3.11	3.00							
8.85	9.00	1.40	10.25	10.00	2.53	2.03	4.56	4.00	1.12	1.33	§.26	1.59	1.23	26.25	24.20
*5.93	8.00	5.51	11.44	8.50	5.33	2.76	8.09	7.00	1.92	3.01	‡.60	*3.61	4.11	37.96	39.90 40.00
6.91	7.00	.93	7.84	7.50	7.87	7.37	15.24	15.00	1.66	2.11	§.34	2.45	2.47	39.49	33.60
8.08	8.00	.82	8.90	8.50	2.78	.....	2.78	2.00	.42	.64	§.21	.85	.82	19.62	22.00 20.00 22.50
8.44	8.00	.99	9.43	8.50	6.95	.....	6.95	7.00	2.86	3.28	§.36	*3.64	4.11	36.81	35.00
8.95	8.00	.74	9.69	8.50	9.20	.....	*9.20	10.00	.87	1.24	¶.25	1.49	1.65	29.56	35.00 25.00
4.84	4.50	.64	5.48	5.00	1.07	10.20	11.27	10.50	3.42	3.91	¶1.79	*5.70	6.17	48.90	46.00
8.10	8.00	.57	8.67	8.50	6.67	6.36	13.03	12.00	.50	.68	§.25	.93	.82	31.33	29.00
7.90	8.00	.48	8.38	8.50	.67	6.46	7.13	‖7.00	2.67	3.54	§.82	4.36	4.11	40.96	38.00
8.23	8.00	.69	8.92	8.50	4.67	.....	4.67	‖4.00	.55	.74	§.27	1.01	.82	22.15	23.00 19.00
8.41	8.00	.48	8.89	8.50	3.87	3.48	7.35	7.00	3.12	3.77	§.47	4.24	4.11	40.48	33.00
7.41	7.00	.76	8.17	7.50	4.13	.61	*4.74	5.00	.55	.79	§.29	1.08	.82	22.03	18.00
7.07	7.00	.83	7.90	7.50	1.70	.....	1.70	1.00	.41	.62	¶.35	.97	.82	17.96	20.00 19.00
4.30	.....	2.29	6.59	6.50	16.58	.....	16.58	16.50	4.66	5.27	¶.28	*5.55	6.15	51.16	44.00
*7.66	8.00	.38	8.04	.....	4.29	.....	4.29	4.00	.26	.52	§.42	.94	.82	20.66	18.00
*7.48	8.00	.74	8.22	.....	1.29	.....	1.29	1.00	.40	.68	§.36	1.04	.82	18.39	16.00
*7.78	8.00	1.15	8.93	.....	2.43	.....	2.43	2.00	1.01	1.37	§.33	1.70	1.65	23.01	24.00
7.78	6.00	1.11	8.89	7.00	7.33	.46	7.79	7.00	.81	.92	‡.13	1.05	1.00	25.27	.....
*7.80	8.00	1.08	8.88	.....	4.93	3.81	*8.74	10.00	1.00	1.39	§.47	1.86	1.64	30.63	26.50
9.54	8.00	.37	9.91	.....	4.53	3.42	7.95	6.00	2.14	2.43	§.35	2.78	2.47	35.53	25.50
6.22	5.50	.29	6.51	.....	4.51	.....	4.51	4.00	.87	1.22	§.41	1.63	1.65	22.71	15.50
7.78	8.00	1.42	*9.30	10.00	4.37	.....	4.37	4.00	.49	.68	§.27	.95	.82	21.64	27.00
6.52	5.25	2.66	*9.18	10.50	.53	5.95	6.48	6.00	3.59	4.22	‡.22	*4.44	5.00	40.32	60.00
9.33	8.00	1.06	10.39	.....	2.40	.....	2.40	2.00	1.20	1.44	¶.39	1.83	1.65	25.18	..... 21.00
8.14	8.00	.85	8.99	.....	2.62	.....	2.62	2.00	.32	.42	¶.24	.66	.41	18.58	15.00 17.00 15.00
8.50	8.00	1.44	9.94	.....	5.42	.....	5.42	5.00	.99	1.26	§.36	1.62	1.65	26.25	23.00 23.00 23.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
*Constituent falls below guaranty. ‖Maker claims all potash added is sulphate. See note on p. 20.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	BAUGH & SONS CO.—Continued.		
130	†Baugh's Excelsior Guano,	N. H. Blough, Davidsville,	8.55
19		Herman Keebler, Montoursville,	
179		J. H. Schaeffer, Greason,	
178	†Baugh's General Crop Grower for all Crops.	J. H. Schaeffer, Greason,	6.99
169		McClellan Zinn, Carlisle,	
407		C. G. Updegrave, Sacramento,	
242	†High Grade Potato Grower,	D. W. Faust & Sons, Chambersburg.	9.27
170		McClellan Zinn, Carlisle,	
573		Aaron Harter, Seagersville,	
479		Edwin Kutz, Kutztown,	
1909	†Baugh's New Process 10% Guano,	Thomas Haines & Co., Malvern,	8.38
93		J. H. Reckenbrode, Hydetown,	
65	†Baugh's Peninsular Grain Producer,	Geo. Hower, Mifflintown,	8.43
588		John F. Stier, Johnsonville,	
553		C. G. Updegrave, Sacramento,	
511	†Baugh's Peruvian Guano Substitute for Potatoes and all vegetables.	A. J. Yahner, Patton, R. D. 2,	7.13
1910		Thomas Haines & Co., Malvern,	
244		D. W. Faust & Sons, Chambersburg,	
30	†Baugh's Potato and Truck Special (for all truck crops).	H. L. Shultz & Son, Altoona,	10.31
933		A. Boetlenger, Danville,	
193		Allison & Foglesonger, Shippensburg,	
94	†Special Potato Manure,	J. H. Rickenbrod, Hydetown,	6.75
232		L. A. Geiger, Joanna,	
2048	The Wrapper Leaf Brand. (A Special Manure for seed leaf tobacco.)	New Providence Coal Co., New Providence.	5.91
	THE BERG COMPANY, PHILADELPHIA, PA.		
378	Berg's High Grade Potato Manure,	Cynthia Brady, Lansdale,	8.81
2055	Berg's Noo Brand,	A. B. Groff, New Holland,	8.96
377	†Berg's Special Bone Manure,	Cynthia Brady, Lansdale,	9.00
2068		S. Book & Bros., Quarryville,	
376	Berg's Standard Bone Manure,	Cynthia Brady, Lansdale,	9.05
2054	Berg's Tobacco Manure,	A. B. Groff, New Holland,	9.18
1934	Berg's Treasure Brand,	Wm. M. Holbert, Warrington,	10.08
379	Berg's Ya Goot Brand,	Cynthia Brady, Lansdale,	8.70
	BOWKER FERTILIZER CO., NEW YORK CITY.		
66	†Bowker's Corn and Grain Grower,	John Sieber, Mifflintown,	10.11
28		H. L. Stultz & Son, Hollidaysburg,	
90	†Farm and Garden Phosphate,	Kernochan & Co., Titusville,	10.07
128		Edward Williams, Johnstown,	
306	Bowker's Ideal Potash Compound,	Wm. Giles, Ulster,	
931		M. P. Whitenight, Bloomsburg,	9.90
110	†Bowker's Market Garden Fertilizer,	C. S. Hunter, Washington,	7.91
815		L. F. Harris, 2115 N. Second St., Harrisburg.	
129	†Bowker's Potash Fertilizer,	Edward Williams, Johnstown,	10.51
113		C. S. Hunter, Washington,	
1159		S. A. Fishburn, Penbrook, No. 2,	
1157	†Bowker's Potato & Vegetable Fertilizer,	L. F. Harris, Harrisburg,	8.47
29		H. L. Stultz & Son, Hollidaysburg,	
1784		H. L. Stultz, Altoona,	
300	†Bowker's Potash or Staple Phosphate,	Walter Pierce, E. Smithfield,	12.76
117		A. C. McClure, Burgettstown,	
1563		M. M. Harter, Nescopeck,	
127	†Special Crop Grower,	Edward Williams, Johnstown,	10.41
1115			
515	†Stockbridge's Special Complete Manure for potatoes and vegetables.	P. P. Lynn, Walnutport, R. D. 1,	7.41
954		F. A. Westrick, Patton, R. D. 2,	
		O. W. Ross, Ranson,	
	S. B. BRODBECK, BRODBECK, PA.		
1773	Brodbeck's Reliable,	S. B. Brodbeck, Brodbeck,	8.31
1771	Brodbeck's Special Potato Fertilizer,	S. B. Brodbeck, Brodbeck,	13.55

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs., at point of selection.
Available.		Insoluble.	Total.		Present as Muriate.	Present as Sulphate.	Total.		Water Soluble.	Available.	Inactive Insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
8.03	8.00	1.15	9.18	.....	5.29	.....	5.29	4.00	.71	.86	¶.28	1.14	.82	23.49	21.60 19.00 18.50
9.12	8.00	1.10	10.22	.....	1.93	.....	1.93	1.00	.64	.82	¶.38	1.20	.82	21.56	17.00 18.00 17.00
9.32	8.00	.84	10.16	.....	8.15	.....	*8.15	10.00	2.28	2.60	§.30	*2.90	3.30	35.35	33.00 34.00
7.21	5.00	1.33	8.54	.....	3.75	.....	3.75	2.50	6.46	7.19	§.51	*7.70	8.23	51.10	34.00 48.00 48.00
8.96	8.00	2.00	10.96	.....	3.38	.....	3.38	2.00	.65	.85	¶.32	1.17	1.00	23.00	....
7.05	6.00	1.11	8.16	.....	7.31	.....	7.31	7.00	3.17	3.57	¶.69	4.26	4.12	38.50	22.00 33.50 36.00
7.90	7.00	1.02	8.92	.....	7.12	.....	7.12	7.00	2.44	2.65	§.29	2.94	2.88	33.21	35.00 30.00 32.00 32.00
5.92	5.00	1.73	7.65	.....	10.13	.....	10.13	10.00	.96	1.31	§.45	1.76	1.65	27.99	27.00 ..... 25.00
4.77	3.50	2.20	6.97	.....	.60	4.50	5.10	‖5.00	1.76	2.55	§.60	3.15	3.30	30.64	29.00
8.88	8.00	1.34	*10.20	11.00	9.17	.....	*9.17	10.00	1.76	2.24	§.46	*2.70	3.00	35.17	34.00
6.23	5.00	2.57	8.80	8.00	4.13	4.94	*9.07	10.00	.55	1.11	§.76	1.87	1.64	30.31	29.00
7.96	7.00	2.26	*10.22	11.00	3.84	.....	3.84	3.00	.50	1.04	‡.33	*1.37	2.00	23.44	24.00 24.50
8.31	8.00	4.51	12.82	11.00	6.62	.....	6.62	6.00	1.03	1.74	‡.30	*2.04	3.00	30.72	30.00
9.42	8.00	1.94	11.36	11.00	.40	6.30	6.70	6.00	1.03	1.72	‡.31	*2.03	3.00	32.22	30.00
8.50	6.00	2.35	10.85	9.00	3.07	1.71	*4.78	6.00	.74	1.23	§.65	*1.88	2.46	27.88	29.00
*7.54	8.00	2.41	*9.95	11.00	4.45	.....	4.45	4.00	.49	1.11	‡.33	1.44	.82	24.14	22.00
7.94	8.00	1.47	9.41	9.00	4.54	.....	4.54	4.00	.63	.89	§.22	1.11	.82	22.59	19.50 24.00 27.00
*7.71	8.00	1.35	9.06	9.00	2.68	.....	2.68	2.00	1.12	1.40	§.31	1.71	1.65	23.25	22.00 27.00
9.90	10.00	1.34	11.24	11.00	3.47	3.29	6.76	6.00	.96	1.28	§.26	1.54	1.23	29.49	24.50
7.39	6.00	.77	8.16	7.00	9.71	.....	*9.71	10.00	2.29	2.59	§.26	2.85	2.47	34.62	35.00 .....
7.90	6.00	1.02	8.92	7.00	2.93	.....	2.93	2.00	.49	.72	§.23	.95	.82	20.11	18.00 20.00 17.50
8.84	8.00	1.47	10.31	9.00	4.59	.....	4.59	4.00	1.83	2.15	§.37	2.52	2.47	29.94	30.00
8.57	8.00	.93	9.50	9.00	3.70	.....	3.70	3.00	.55	.82	¶.24	1.06	.82	21.92	24.00 24.00 22.00
8.36	8.00	.98	9.34	9.00	10.60	.....	10.60	10.00	1.13	1.49	§.27	1.76	1.65	31.56	24.25 26.00
7.09	6.90	.79	7.88	7.00	10.62	.....	10.62	10.00	2.51	2.97	§.35	3.22	3.29	37.26	31.25 34.00
8.21	8.00	.71	8.92	9.00	2.80	.....	2.80	2.00	.30	.40	¶.29	.69	.41	18.98	14.50
8.71	8.00	2.04	10.75	9.00	2.00	2.10	4.10	4.00	.57	.67	¶.25	.92	.82	22.81	18.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
*Constituent falls below guaranty. ‖Maker claims all potash added is sulphate. See note on p. 20.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	CAMBRIA FERTILIZER CO., JOHNSTOWN, PA.		
1641	Corn and Potato Manure,	H. J. Eberly, Cresson,	6.69
	CENTRAL CHEMICAL CO., HAGERSTOWN, MD.		
372	†C. C. C. Atlas Keystone Compound,	E. P. Swayne, Chadd Ford Junc.,	7.03
186		Niebels Stewart, Shippensburg,	
486		Joseph Gockenour, Bermudian,	
1725	C. C. C. Early Crop Special,	J. J. Gerhard, Weatherly,	7.35
385	†C. C. C. Empire,	Samuel Savidge, Valley View,	7.07
188		Nichels Stewart, Shippensburg,	
602		John P. Dunn, Thompsontown,	
1295	†C. C. C. Excelsior Phoenix,	John Wengert, Lewisburg,	8.21
1726		J. J. Gerhard, Weatherly,	
1785	C. C. C. Farmers' Century Brand,	Sidney T. Isett, Spruce Creek,	7.57
180	†C. C. C. Pride of the Valley,	Nichels Stewart, Shippensburg,	7.35
558		Edgar Heplar, Heplar,	
705	C. C. C. Special,	Geo. Barkman, Shankville,	6.13
386	†C. C. C. Superior Planters' Mixture,	Samuel Savidge, Valley View,	7.89
371		E. P. Swayne, Chadd Ford Junc.,	
603		J. Louderslager, Thompsontown,	
1728	C. C. C. Truck Special,	James B. Adams, Rockport,	6.12
	S. K. CHAMBERS & BRO., ELKVIEW, PA.		
345	Special Crop Grower,	S. K. Chambers & Bros., Elkview,	8.44
	CHESAPEAKE CHEMICAL CO., BALTIMORE, MD.		
1834	C. C. Co's Champion Fertilizer,	John G. Dubbs, Bellefonte,	7.02
706	†C. C. Co's Golden Harvest,	Wm. Platt, Berlin,	9.75
1832		John G. Dubbs, Bellefonte,	
1833	C. C. Co's Imperial Guano,	John G. Dubbs, Bellefonte,	6.01
	COE MORTIMER CO., NEW YORK.		
412	†E. F. Coe's Columbian Corn and Potato Fertilizer.	W. W. Feick & Co., Kutztown,	10.68
163		W. F. Campbell, Athens,	
1969		A. M. Frederick, Jr., Fairchance,	
829	†E. F. Coe's Extra Special Potato Fertilizer and Fruit Grower.	Francis Baker, Everett,	9.76
413		W. W. Feick & Co., Kutztown,	
938		G. E. Ayer, New Albany,	
1507	E. F. Coe's Gold Brand Excelsior Guano.	L. B. Green, Nicholson,	10.60
411	†E. F. Coe's Penna. No. 1 Grain Special for Wheat, Rye and Oats.	W. W. Feick & Co., Kutztown,	10.19
164		W. F. Campbell, Athens,	
1124		William Buck, Millport,	
	COLUMBIA GUANO CO., BALTIMORE, MD.		
600	†Columbia General Crop Manure,	Thomas Kunkle, Easton, No. 4,	9.20
1417		Acker & Bolton, Saegerstown,	
1418	Columbia Grain Special,	Acker & Bolton, Saegerstown,	8.53
1419	Columbia Special Potato Formula,	Acker & Bolton, Saegerstown,	10.65
166	Columbia Special Potato Guano,	Henry & Bressler, Athens,	4.23
	CONSUMERS' FERTILIZER CO., 42 BROADWAY, NEW YORK.		
1152	Consumers' Special Market Garden Fertilizer.	Geo. N. Greene, Philadelphia,	7.03
	HENRY COPE & CO., LINCOLN UNIVERSITY, PA.		
353	†Ammoniated Phosphate,	Passmore & Co., Nottingham,	11.35
1923		Lyburn Whitaker, Oxford,	
1924	Potato and Corn Phosphate,	Lyburn Whitaker, Oxford,	9.51
	JOSIAH COPE & CO., BALTIMORE, MD.		
523	†Josiah Cope & Co's Ammoniated Phosphate.	J. A. Bearer, Hastings,	9.75
1908		Harry Wilson, Frazer,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs., at point of selection.
Available.		Insoluble.	Total.		Present as Muriate.	Present as Sulphate.	Total.		Water Soluble.	Available.	Inactive Insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
7.17	6.00	1.56	8.73	7.00	5.60	3.07	8.67	8.00	.60	1.06	§.55	1.61	1.50	28.82	25.00
*7.76	8.00	.69	8.45	.....	4.43	.....	4.43	4.00	.36	.54	¶.28	.82	.82	20.56	20.00 20.00 .....
8.73	8.00	.27	9.00	.....	4.93	3.28	*8.21	10.00	2.93	3.06	§.15	3.21	3.30	36.69	33.00
7.81	8.00	.77	8.58	.....	10.04	.....	10.04	10.00	1.13	1.37	§.34	1.71	1.65	30.14	25.00 28.00 26.50
8.16	8.00	.80	8.96	.....	3.92	.....	3.92	4.00	1.02	1.31	§.36	1.67	1.65	24.37	21.00 22.00
*7.72	8.00	.56	8.28	.....	2.07	.....	2.07	2.00	.74	.86	¶.18	1.04	.82	19.27	20.00
*7.79	8.00	.55	8.34	.....	3.71	.....	3.71	3.00	.28	.36	¶.15	.51	.41	16.05	15.00 16.00
8.10	8.00	.57	8.67	.....	7.13	.....	*7.13	8.00	.90	1.40	§.60	2.00	1.65	28.88	24.85
8.09	8.00	.63	8.72	.....	6.31	.....	6.31	6.00	.40	.57	¶.27	.84	.82	22.88	19.75 22.00 20.50
*7.42	8.00	1.15	8.57	.....	8.00	3.62	11.62	10.00	2.77	2.91	¶.16	3.07	2.47	38.41	32.50
*7.49	8.00	.90	*8.39	9.00	2.22	.....	2.22	2.00	1.08	1.45	§.33	1.78	1.64	22.81	24.00
7.93	8.00	1.39	9.32	9.00	2.05	.....	2.05	2.00	.72	.83	¶.20	1.03	1.00	19.92	24.00
*7.72	8.00	.82	*8.54	9.00	8.10	2.15	10.25	10.00	1.22	1.51	§.30	1.81	1.64	31.26	27.50 30.00
8.36	8.00	1.42	9.78	9.00	2.04	.....	2.04	2.00	.28	.40	§.16	.56	.41	15.42	19.00
8.89	8.50	1.82	10.71	9.50	3.35	.....	3.35	2.50	.80	1.03	§.23	1.25	1.23	23.26	22.50 24.00
8.28	8.00	1.12	9.40	9.00	10.85	.....	10.85	10.00	1.10	1.43	§.25	1.68	1.65	31.57	24.00 30.00 28.00 28.00
8.20	8.00	1.99	10.19	9.00	4.67	.99	*5.66	6.00	1.95	2.33	§.29	2.62	2.47	31.24	24.94
9.69	8.00	.57	10.26	9.00	3.65	.....	3.65	3.00	.40	.74	§.25	.99	.82	22.63	19.00 22.00 21.00
8.61	8.00	.66	9.27	8.50	4.41	.....	4.41	4.00	.73	.91	‡.08	.99	.82	22.27	22.00 20.40
8.28	8.00	1.23	9.51	8.50	2.68	.....	2.68	2.00	.67	.92	§.20	1.12	.82	21.05	18.90
8.36	8.00	1.15	9.51	8.50	8.53	1.76	10.29	10.00	1.05	1.36	§.33	1.69	1.65	31.53	28.25
5.55	5.00	.98	6.53	5.50	10.37	.....	10.37	10.00	1.06	1.47	‡.17	1.64	1.65	28.00	28.00
8.82	8.00	.56	9.38	9.00	.53	7.21	7.74	7.00	....	3.32	.....	3.43	3.28	38.56	.....
8.21	7.00	1.16	9.37	9.00	3.12	.....	3.12	2.00	.70	.86	¶.25	1.11	1.00	21.31	22.00 21.00
7.97	7.00	1.02	8.99	9.00	5.21	.....	5.21	4.00	.70	.94	¶.42	1.36	1.25	24.19	24.00
8.34	8.00	1.13	9.47	9.00	3.20	.....	3.20	3.00	.53	.73	§.22	.95	.82	20.88	21.00 22.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	JOSIAH COPE & CO.—Continued.		
351	†Josiah Cope & Co's Potato and Tobacco Phosphate.	O. W. Shortlidge, Lincoln University.	9.89
2020		Jones Eavenson, Christiana, ...	
349	†Josiah Cope & Co's Puro Bono Phosphate,	O. W. Shortlidge, Lincoln University.	8.71
2019		Jones Eavenson, Christiana, ...	
1415	Josiah Cope & Co's Try Me Fertilizer, ..	Harry Wilson, Frazer, ...	9.44
	THE JAS. G. DOWNWARD CO., COATESVILLE, PA.		
878	Ammoniated Phosphate, ...	J. W. Underwood, Ambler, ...	9.13
877	Pioneer Potato Manure, ...	J. W. Underwood, Ambler, ...	5.47
876	Special Potato Fertilizer, ...	J. W. Underwood, Ambler, ...	7.36
	EASTERN CHEMICAL CO., NEW YORK.		
1992	Eastern Valley Queen, ...	F. H. Neiswender, Pitman, ...	6.98
250	Eastern Wheat and Clover, ...	Greencastle Elevator Co., Greencastle.	8.07
	ERIE REDUCTION CO., ERIE, PA.		
438	Erie Grain Special, ...	Theilmal Seed Co., Erie.	4.62
439	Erie Potato and Truck Special, ...	Theilmal Seed Co., Erie, ...	6.20
	EUREKA CHEMICAL CO., BALTIMORE, MD.		
633	†Eureka Complete Compound, ...	Geo. Zimmerman, Cowan, ...	7.35
215		D. P. Beitzel, Mechanicsburg, ...	
689		N. E. Gobrech & Bro., Hanover, ..	
1054	Eureka Farmers' Favorite, ...	Levi Kaltrider, Red Lion, ...	8.26
1373	†Eureka Farmers' Success, ...	Levi Stober, Kleinfeltersville, ...	7.36
1994		Jos. Emerick, Pine Grove, ...	
964	†Eureka Fish and Potash, ...	Geo. Driebelbis, Virginsville, ...	7.10
1970		Wm. Davis, Greenboro, ...	
769	†Eureka High Grade Trucker, ...	D. J. Beitzel, Mechanicsburg, ...	7.82
21		D. J. Schoch, Montoursville, R. No. 2.	
814	†Eureka Potato and Vegetable, ...	Daniel Mader, Harrisburg, R. D.,	8.35
963		Geo. Dreibelbis, Virginsville, ...	
216		D. J. Beitzel, Mechanicsburg, ...	
1548		J. H. Bartenslager, Stewartstown,..	
	FARMERS' FERTILIZER WORKS, ELIZABETHTOWN, PA.		
1683	†Best Yet, ...	B. F. Horting, Newport, ...	7.25
1809		Jacob Hurst, Farmersville, ...	
800	†Grain and Grass Special, ...	John Sheetz, Elizabethville, ...	7.19
1965		John W. Lentz, Lebanon, ...	
1714	Potato, Tobacco and Truck Manure, ...	I. B. Secrist, Millerstown, ...	10.72
1810	Pride of Donegal, ...	Jacob Hurst, Farmersville, ...	6.97
1686	†Special Potato and Tobacco Manure, ...	B. F. Horting, Newport, ...	7.74
2050		J. B. Graybill, Refton, ...	
	W. S. FARMER & CO., BALTIMORE, MD.		
1037	W. S. Farmer & Co's Climate Phosphate,	J. W. Shoemaker, Littleton, R. No. 1.	7.76
1552	W. S. Farmer & Co's Clyde Brand, ...	A. W. Trout, Stewartstown, ...	9.06
1036	W. S. Farmer & Co's Diamond Back Brand.	J. W. Shoemaker, Littleton, R. No. 1.	9.19
894	†Harvest Queen, ...	E. J. Sipe, Rockwood, ...	8.83
1769		J. A. Myers, Felton, ...	
1038	W. S. Farmer & Co's Pelican Guano, ...	J. W. Shoemaker, Littleton, R. No. 1.	9.84
	JOSEPH R. GAWTHROP, KENNETT SQUARE, PA.		
337	Champion Fertilizer for Wheat and Grass,	Jos. Gawthrop, Kennett Square, ..	8.52
338	Special Potato Phosphate, ...	Jos. Gawthrop, Kennett Square, ..	5.11
	GRIFFITH & BOYD CO., BALTIMORE, MD.		
1274	†Cereal Plant Food, ...	Adam King, Allenwood, ...	7.04
1461		A. F. Diehl, Glen Rock, R. D., ..	

†Composite sample.

LIZERS—Continued

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs., at point of selection.
Available.			Total.				Total.					Total.			
Found.	Guaranteed.	Insoluble.	Found.	Guaranteed.	Present as Muriate.	Present as Sulphate.	Found.	Guaranteed.	Water Soluble.	Available.	Inactive Insoluble.	Found.	Guaranteed.		
11.53	10.00	1.05	12.58	11.00	6.36	.....	*6.36	7.00	.63	.92	‡.05	.97	.82	27.07	25.00
															26.00
*8.32	9.00	5.64	13.96	13.50	4.31	.....	4.31	4.00	1.34	2.07	‡.04	2.11	1.85	29.29	26.00
															26.00
8.56	8.00	1.68	10.24	9.00	4.10	.....	4.10	4.00	1.03	1.34	§.29	1.63	1.65	25.40	25.00
7.06	7.00	.88	7.94	8.00	3.60	.....	3.60	3.50	.35	.58	§.33	.96	.82	19.81	24.00
7.75	7.00	.90	8.65	8.00	6.80	3.91	10.71	10.00	2.90	3.10	§.24	3.34	3.30	39.22	36.00
7.75	7.00	.64	8.39	8.00	4.97	.....	4.97	5.00	.91	1.16	§.34	1.50	1.24	24.21	28.00
8.19	8.00	.51	8.70	.....	.80	9.20	10.00	10.00	1.38	1.54	§.22	1.76	1.65	32.79	25.60
10.18	8.00	.34	10.52	.....	2.82	.....	2.82	2.00	.36	....	.....	*.50	.82	16.81	17.00
9.69	8.00	2.36	12.05	.....	2.76	.....	2.76	2.00	2.39	2.84	§.45	3.29	2.47	33.12	25.00
8.80	7.00	1.61	10.41	.....	10.57	.....	10.57	10.00	1.84	2.16	§.38	2.54	2.47	35.90	31.50
7.62	7.00	.54	8.16	7.50	5.19	.....	5.19	5.00	.55	.74	§.21	.95	.82	21.74	19.00
															20.00
															19.00
7.90	8.00	.80	8.70	8.50	2.19	.....	2.19	2.00	1.00	1.32	§.44	1.76	1.64	22.94	20.00
8.41	8.00	.55	8.96	8.50	6.93	.....	6.93	7.00	.66	.81	§.22	1.03	.82	24.69	25.00
8.11	8.00	.66	8.77	8.50	1.43	.....	1.43	1.00	.11	.19	¶.22	.41	.41	13.69	.....
															16.00
8.41	8.00	.74	9.15	8.50	10.08	.....	10.08	10.00	1.29	1.47	§.20	1.67	1.64	30.25	19.00
															27.00
															28.00
															.....
8.31	8.00	.69	9.00	8.50	3.83	.....	3.83	4.00	1.21	1.38	¶.28	1.66	1.64	24.43	24.00
															22.00
															23.00
8.62	8.00	.99	9.61	.....	1.87	8.12	10.09	10.00	.97	1.41	§.50	1.91	1.65	33.99	25.00
															28.00
8.75	8.00	1.03	9.78	.....	5.03	.....	5.03	4.00	.40	.61	¶.46	1.07	.82	23.47	19.00
															.....
9.37	10.00	.83	10.20	.....	.40	6.30	6.70	6.00	1.73	2.07	§.35	2.42	2.47	33.24	28.00
8.04	7.00	1.11	9.15	.....	5.20	.88	6.08	5.00	.59	1.01	¶.74	1.75	1.65	27.19	24.00
6.82	6.00	.89	7.71	.....	9.60	2.07	11.67	10.00	1.81	2.27	§.59	2.86	2.47	36.44	28.75
															30.00
7.94	7.00	.70	8.64	8.00	4.39	.....	4.39	4.00	.76	.96	§.18	1.14	.82	22.32	18.00
8.40	8.00	1.36	9.76	9.00	2.11	.....	2.11	2.00	.39	.59	¶.30	.89	.82	19.64	17.00
8.40	8.00	.94	9.34	9.00	5.40	.....	5.40	5.00	1.00	1.18	§.16	1.34	1.03	24.76	20.00
8.84	9.00	1.74	10.58	10.00	3.25	.....	3.25	3.00	.76	.93	¶.27	1.20	1.03	22.86	19.50
															20.00
7.69	6.00	.85	8.54	7.00	5.15	.....	5.15	3.00	.63	.83	§.22	1.05	.41	22.40	15.00
6.02	4.00	2.55	8.57	8.00	2.61	.....	2.61	1.00	1.97	2.29	‡.12	2.41	1.50	25.18	27.00
6.14	4.50	.41	6.55	5.50	2.40	2.05	4.45	3.00	.89	1.07	§.31	1.38	1.00	21.79	26.00
8.35	8.00	1.91	10.26	9.00	3.05	.....	3.05	2.00	.37	.71	§.24	.95	.85	21.09	18.00
															.....

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡two-fifths or less: §=two-fifths to three-fifths; ¶=three-fifths or less.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	GRIFFITH & BOYD CO.—Continued.		
1790	Double Strength Tobacco Grower, ...	Elias Wolf, Akron, ...	10.05
1150	Farmers' Improved Phosphate, ...	Frank Kiskaddon, Kittanning, ...	7.21
212	†Farmers' Potato Manure, ...	A. B. Harnisb, Mechanicsburg, ...	10.60
39		A. B. Mock, Martinsburg, ...	
346		S. K. Chambers & Bro., Elkview, ..	
776	†Gilt Edge Crop Guano, ...	Glen Mains, Dickinson, ...	8.73
572		Jas. Lauchner, New Tripoli, R. No. 1.	
1555		Anderson Bros., New Park, ...	
1462	†Potato and Tomato Grower, ...	H. W. Rehmeyer, Turnpike, ...	7.45
1027		Laird F. Hoburg, Aetna, ...	
1677		Peacock Bros., Houston, ...	
100	Royal Potash Guano, ...	A. F. Gault, Bentleyville, ...	9.12
1028	†Spring Crop Grower, ...	Laird F. Hoburg, Aetna, ...	7.82
1976		Mandon Seebler, Drehersville, ...	
1406	Stable Manure Substitute, ...	E. A. & J. L. Pennock, Cbatbam,	5.18
457	†Vegetable Bone, ...	H. McGowan, Farmers' Union, Geigertown.	8.48
1632		Frank Kiskaddon, Kittanning, ...	
	FRANK HARTRANFT, COATESVILLE, PA.		
851	Special Phosphate, ...	P. F. Powell, West Grove, ...	11.31
853	Spring Crop Grower Phosphate, ...	P. F. Powell, West Grove, ...	11.76
852	Tobacco and Potato Phosphate, ...	P. F. Powell, West Grove, ...	8.12
	W. S. HASTINGS & SON, ATGLEN, PA.		
1398	Atglen Brand, ...	W. S. Hastings & Son, Atglen, ...	8.75
	S M. HESS & BRO., PHILADELPHIA, PA.		
442	†Keystone Phosphate, ...	A. L. Veit, McKean, ...	10.59
61		Wm. Ruffenberger, Mifflintown, ..	
467	†Potato and Truck Manure, ...	Stepben H. Mast, Elverson, ...	10.54
774		J. P. Myers, Langsdorf, ...	
634		J. R. Iddings, Mifflinburg, ...	
1575	†The Scientific Manure, ...	Daniel Stauffer, Zion Grove, ...	9.18
601		Ottis E. Rumberger, Thompsontown,	
1697	†Special Compound, ...	J. D. Cooper, Landisburg, ...	11.03
466		Stephen H. Mast, Elverson, ...	
69		C. W. Book, Port Royal, ...	
1301	†Special Corn Manure, ...	Chas. Shotzberger, Freeburg, ...	10.53
225		Jas. Westley, Mohnton, R. No. 1,	
60		Wm. Ruffenberger, Mifflintown, ...	
529		A. F. Hengst, Osterburg, ...	
530	Special Potato Manure, ...	A. F. Hengst, Osterburg, ...	7.23
121	†Superior Potash Mixture, ...	Moses Weaver, Holsopple, ...	9.59
57		Wm. Ruffenberger, Mifflintown, R. D.	
224		Jas. Westley, Mohnton, R. D., ...	
	M. P. HUBBARD & CO., INC., BALTIMORE, MD.		
1287	†Hubbard's Arrow Compound, ...	John Painter, Lewisburg, ...	9.33
396		N. D. Yoder, Hegins, ...	
1581		Elmer Deable, Ringtown, ...	
1284	Hubbard's Celebrated Phospbate for general use.	John Painter, Lewisburg, ...	8.35
1527	†Hubbard's Eclipse Guano, ...	I. G. Washburn, Millville, ...	10.11
1313		F. A. Bingamon, Port Trevorton, ..	
1601		H. B. Lewis Co., Mansfield, ...	
949	†Hubbard's Farmers' Friend, ...	C. B. Tyler, Mesboppen, ...	8.13
660		Reed & Erdman, Paxinos, ...	
1529		I. G. Washburn, Millville, ...	
668	Hubbard's Fish and Potash Mixture, ...	Reed & Erdman, Paxinos, ...	5.00
261	†Hubbard's Harvest King for Wbeat and Grass.	A. J. Harbold, Dillsburg, R. No. 4,	4.46
664		Reed & Erdman. Paxinos, ...	
262	†Hubbard's Old Economy, ...	A. J. Harbold, Dillsburg, R. No. 4,	10.57
1314		F. A. Bingamon, Port Trevorton,..	4.63

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.			Total.				Total.					Total.			
Found.	Guaranteed.	Insoluble.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Water soluble.	Available.	Inactive insoluble.	Found.	Guaranteed.		
9.66	8.00	1.22	10.88	9.00	3.66	.....	3.66	3.00	.97	1.46	§.41	*1.18	2.50	26.30	28.00
8.08	7.00	3.15	11.23	8.00	2.57	.....	2.57	2.00	.28	.42	¶.27	*.69	.85	17.01	21.00
8.81	8.00	1.24	10.05	9.00	8.72	.....	*8.72	9.00	.45	.70	§.25	.95	.82	26.66	24.00 25.00 28.00
8.65	8.00	1.76	10.41	9.00	9.11	.....	*9.11	10.00	1.23	1.42	§.20	1.62	1.65	30.09	..... 28.00 26.00
7.18	6.00	2.20	9.38	7.00	6.06	.....	*6.06	7.00	.24	.63	§.39	1.02	.82	23.12	20.00 26.00 25.00
8.66	8.00	1.96	10.62	9.00	4.00	.....	4.00	4.00	.50	.75	§.34	1.09	.85	23.01	26.00
7.45	6.50	1.57	9.02	7.50	4.25	.....	*4.25	4.50	1.46	1.61	§.20	1.81	1.65	25.03	28.00 25.00
6.20	5.00	1.47	7.67	6.00	4.81	.....	4.81	4.00	1.51	2.01	§.41	*2.42	2.75	26.97	28.00
8.00	8.00	.80	*8.80	9.00	7.00	.....	7.00	7.00	1.65	2.15	§.43	2.58	2.50	31.52	26.00 31.50
9.86	10.00	1.02	10.88	11.00	3.80	.....	3.80	2.00	.86	.95	‡.13	1.08	.82	23.94	22.00
10.74	10.00	.87	11.61	11.00	2.35	.....	2.35	2.00	.41	.50	§.15	.65	.41	17.67	18.00
*6.87	8.00	.39	*7.26	9.00	3.73	5.64	9.37	8.00	1.86	2.00	¶.16	2.16	1.65	31.71	26.00
8.37	8.00	.83	9.20	.....	4.85	.....	4.85	5.00	1.12	1.33	¶.35	1.68	1.65	25.74	22.00
8.32	8.00	1.43	9.75	9.00	1.31	.....	1.31	1.00	.63	.82	§.20	1.02	.82	19.38	21.00 17.50 20.00
8.41	8.00	1.57	9.98	9.00	5.73	.43	6.16	6.00	2.10	2.42	§.27	2.69	2.47	32.05	29.00 ..... 27.00
6.37	6.00	1.34	7.71	7.00	4.75	.....	*4.75	5.00	.80	1.03	§.33	1.36	1.23	22.24	21.00 ..... 23.00
8.41	8.00	1.15	9.56	9.00	3.88	.....	3.88	4.00	.49	.68	§.22	.90	.82	21.37	..... 19.00
8.22	8.00	1.11	9.33	9.00	2.50	.....	2.50	2.00	.52	.69	¶.27	.96	.82	20.07	20.00 18.50 19.00
8.86	8.00	1.17	10.03	9.00	6.92	.....	6.92	7.00	2.31	2.73	§.37	3.10	3.29	34.76	32.75
8.54	8.00	.79	9.33	9.00	10.10	.....	10.10	10.00	1.21	1.44	¶.22	1.66	1.65	28.97	27.50 28.00 30.00
8.16	8.00	.89	*9.05	9.50	1.06	8.97	10.03	10.00	1.15	1.52	§.37	1.89	1.66	33.62	..... 24.15 25.00
8.25	8.00	1.49	9.74	9.50	2.18	.....	2.18	2.00	1.06	1.29	¶.39	1.68	1.66	23.40	.....
7.83	7.00	.59	8.42	8.50	5.62	.....	5.62	5.00	.93	1.20	§.35	1.55	1.66	25.09	23.00 23.00 25.00
7.63	8.00	.81	*8.44	9.50	9.54	.....	9.54	8.00	.53	.66	¶.28	.94	.83	26.08	24.00 24.00
8.51	7.00	1.00	9.51	8.00	1.59	.....	1.59	1.00	.26	.30	¶.18	.48	.21	17.37	20.00 15.00 19.00
9.55	9.00	.93	10.48	10.50	3.35	.....	3.35	3.00	.66	.86	§.29	1.15	.83	23.06	20.00
8.30	8.00	1.77	10.07	9.00	2.53	.....	2.53	2.00	.18	.32	¶.27	.59	.42	16.92	16.00 16.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths· ¶=three-fifths or more.
*Constituent falls below guaranty,

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.		
54	†Hubbard's Climax Phosphate,	H. M. Owens & Co., Lewistown,	8.38
43		Waite & McClain, Tyrone,	
123		Mickel & Hindman, Windber,	
264	†Hubbard's Columbia Gem,	J. B. Spera, Dillsburg,	6.85
53		H. M. Owens & Co., Lewistown,	
799	†Hubbard's Farmers' I. X. L.,	J. A. Rumberger, Elizabethville,	9.31
1446		J. Emory Maul, Monroe,	
1905	†Hubbard's Jersey Trucker,	G. W. Eisenwine, Salona,	9.93
52		H. M. Owens & Co., Lewistown,	
25		Rhule & Acker, Williamsburg,	
122		Mickel & Hindman, Windber,	
257	†Hubbard's Jewel Phosphate,	J. B. Spera, Dillsburg,	8.53
42		Waite & McClain, Tyrone,	
1333	Hubbard's Royal Ensign,	J. D. Graybill & Sons, Belleville,	6.66
1541		J. C. Lieb & Co., Stewartstown,	
	INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO.		
732	†Ideal Wheat and Corn,	Grange Committee Crawford Co., Springboro.	9.90
1841		Harry Shivery, Bellefonte, R. D.,	
733	Vegetable and Potato,	Grange Committee Crawford Co., Springboro.	9.88
	THE JARECKI CHEMICAL CO., SANDUSKY, OHIO.		
909	Black Diamond Fish Guano,	A. A. Barnett, Boswell,	9.30
120	†Fish, Phosphate and Potash, Tobacco and Potato Food.	J. S. Moore, Oak Dale,	9.24
445		B. S. Tallmage, McKean,	
742	Fish and Potash Truck Manure,	F. F. Harrison, Edinboro,	10.66
743	†High Potash Mixture,	F. F. Harrison, Edinboro,	10.77
1176		A. A. Barnett, Boswell,	
446	†Lake Erie Guano with Phosphate and Potash.	B. S. Tallmage, McKean,	11.48
81		Clark Bros., Oil City,	
893		S. S. Mosholder, Rockwood,	
1663	Number One Formula,	J. H. Voorhees, Ten Mile,	10.00
912	Raw Bone and Phosphate Mixture,	A. A. Barnett, Boswell,	11.08
911	†Tobacco and Truck Grower,	A. A. Barnett, Boswell,	9.11
1666		J. H. Voorhees, Ten Mile,	
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.		
1604	Grangers' Favorite,	Mansfield Grange, Mansfield,	10.02
1605	Grangers' Ideal Potato Grower,	Mansfield Grange, Mansfield,	12.02
	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA.		
1116	†Keystone Corn and Cereal Grower,	N. O. Minick, Cherryville,	10.65
1936		Wm. M. Halbert, Warrington,	
480	Keystone Economy Potash Compound,	Alfred Baver, Kutztown, R. No. 4,	6.61
389	Keystone Gold Medal Special,	Chas. Schofstall, Valley View,	11.37
390	†Twentieth Century Special,	Chas. Schofstall, Valley View,	7.49
409		Alfred Baver, Kutztown, R. No. 4,	
	LANCASTER BONE FERTILIZER CO., LANCASTER, PA.		
738	Lancaster Animal Tankage and Potash,	H. D. Hayes, Edinboro,	4.74
729	Lancaster Corn, Grass and Wheat Special,	L. F. Haag, Girard,	7.47
440	†Potato, Fruit and Vegetable,	A. L. Veit, McKean,	7.39
31		H. B. Replogle, Curryville,	
680		J. H. Duttera, New Oxford,	
739	†Potato, Tobacco and Truck Manure,	H. D. Hayes, Edinboro,	6.85
539		Howard Replogle, Curryville,	
1899		J. E. DeFrain, Collomsville,	
1440	Lancaster Special Guano,	Josiah Flinchbaugh, Windsor,	6.16

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
7.91	7.00	1.21	9.12	8.00	4.62	.....	4.62	4.00	.45	.71	§.25	.96	.82	21.79	20.50 21.00 22.00
8.51	8.00	.68	9.19	9.00	2.72	.....	2.72	2.00	.23	.32	¶.19	.51	.41	15.64	16.00 18.00 16.00
8.16	8.00	.83	8.99	9.00	2.89	.....	2.89	2.00	1.24	1.54	§.26	1.80	1.64	24.12	21.00 23.00
7.86	8.00	.77	*8.63	9.00	10.42	.....	10.42	10.00	1.23	1.50	§.31	1.81	1.64	31.02	28.00 27.00 30.00
8.27	8.00	.54	8.81	9.00	5.15	.....	5.15	5.00	.57	.77	§.22	.99	1.00	22.58	22.00 24.00 21.25
8.40	8.00	1.77	10.17	9.00	5.73	1.03	6.76	4.00	2.07	2.35	‡.18	2.53	2.46	32.17	25.50
9.27	9.00	2.01	11.28	10.00	5.04	5.60	5.04	5.00	1.46	1.62	§.22	1.84	1.60	28.14	21.15 .....
8.70	8.00	2.93	11.63	9.00	5.60	.76	*6.36	7.00	1.74	2.07	§.39	2.44	2.40	32.14	26.10
8.43	8.00	.69	9.12	9.00	3.07	.83	3.90	4.00	1.36	1.56	‡.09	1.65	1.66	24.78	23.00
8.20	8.00	.47	*8.67	9.00	4.19	.....	4.19	4.00	.47	.63	§.23	.86	.83	20.89	24.00 21.00
8.02	8.00	.53	*8.55	9.00	8.41	.....	8.41	7.00	2.58	2.97	‡.11	*3.08	3.33	35.00	33.00
6.65	6.00	.74	7.39	7.00	8.09	.....	8.09	8.00	.77	.90	¶.25	1.15	.83	24.56	25.50 25.00
8.35	8.00	.51	8.86	9.00	2.87	.....	2.87	2.50	.89	1.12	§.26	1.38	1.25	22.28	21.00 26.00 19.00
8.50	8.00	.98	9.48	9.00	1.47	.74	2.21	2.00	.59	.71	¶.21	.92	.83	19.95	22.50
*6.99	8.00	9.38	16.37	16.00	2.00	.37	2.37	2.00	.48	.70	§.38	1.18	1.25	23.82	17.50
6.41	6.00	.77	7.18	7.00	5.34	.....	*5.34	6.00	1.28	1.46	‡.06	1.52	1.66	23.29	27.00 28.00
8.77	8.00	1.36	10.13	9.00	5.60	3.97	*9.57	10.00	1.15	1.37	¶.38	1.75	1.65	32.12	26.20
7.88	7.00	1.66	9.54	8.00	4.00	3.30	*7.30	8.00	2.56	2.90	§.30	3.20	3.29	35.65	31.60
*7.68	8.00	.77	*8.45	9.00	4.33	.....	4.33	4.00	.96	1.38	§.39	1.77	1.65	24.78	..... 27.00
7.74	7.00	1.59	9.33	8.00	6.39	.....	6.39	5.00	.57	.75	§.15	.90	.82	23.32	20.00
8.58	8.00	.71	9.29	9.00	10.45	.....	10.45	10.00	2.40	3.05	‡.35	3.40	3.28	39.00	35.00
6.41	5.00	.79	7.20	6.00	.80	9.57	10.37	10.00	.51	.84	¶.46	1.30	1.23	29.47	25.00 26.00
*7.09	7.50	.88	*7.97	8.50	4.08	.....	4.08	3.50	.70	1.00	¶.48	1.48	1.40	22.83	24.00
7.62	7.50	.40	*8.02	8.50	2.50	.....	2.50	2.50	.12	.44	§.42	.86	.82	18.62	21.00
*6.66	7.00	.59	*7.25	8.00	7.31	.....	7.31	7.00	.25	.50	§.36	.86	.82	22.35	25.00 22.50 22.50
8.16	8.00	.70	8.86	9.00	7.94	.....	7.94	8.00	1.00	1.25	§.35	1.60	1.60	27.98	28.00 ..... 28.00
6.80	7.00	.56	*7.36	8.00	4.14	.....	4.14	4.00	.16	.48	§.32	.80	.82	19.23	21.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡two-fifths or less: §=two-fifths to three-fifths: ¶=three-fifths or more.

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	LANCASTER CHEMICAL CO., LANCASTER, PA.		
2041	No. 2 Dewey Brand,	Harry C. Breckbill, Strasburg,	8.28
2010	No. 15 General Crop Special,	R. C. Collins, Quarryville,	10.20
1813	No. 4 Rising Sun,	H. M. Stauffer, Leola,	12.36
1388	No. 18 Success Brand,	C. S. Zimmerman, Bismark,	11.76
1812	No. 1 Tobacco and Vegetable Fertilizer,	H. M. Stauffer, Leola,	7.02
	LEBANON FERTILIZER WORKS, S. M. & H. D. LEVAN, LEBANON, PA.		
401	Royal Potash Compound Fertilizer,	Edward Mayberry, Pine Grove,	5.26
400	†Levan's Special Corn Fertilizer,	Edward Mayberry Pine Grove,	7.54
1281		Robt. Meek, Allenwood,	
1156		W. A. Bailets, Dauphin,	
397	†Levan's Special Truck,	Horace Kintel, Pine Grove,	8.61
1347		Samuel Gettle, Rehrersburg,	
	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.		
532	†Lister's Corn and Potato Fertilizer,	Jacob Bowser, St. Clairsville,	11.21
10		A. F. Wentz, Jersey Shore,	
1058		Jacob Krug, Hastings,	
725	Lister's Corn No. 2 Fertilizer,	Chas. Beckman, Fairview,	12.53
171	†Lister's G. Brand,	J. H. Minnich, Carlisle, R. D.,	9.72
7		A. F. Wentz, Jersey Shore, R. No. 2.	
198		Allison & Fogelsonger, Shippensburg,	
	LISTER'S AGRICULTURAL CHEM. WORKS, NEWARK, N. J.		
211	†Lister's New York Special Fertilizer,	Miller & Enrich, Mechanicsburg,	10.00
8		A. F. Wentz, Jersey Shore, R. 3,	
451		B. S. Tallmage, McKean,	
172	†Lister's Penna. Special Fertilizer,	J. H. Minnich, Carlisle, R. F. D.,	9.88
86		F. P. Allen, Titusville,	
1334		S. A. Hostetter, Belleville,	
659	†Lister's Potato Manure,	H. M. Yordy, Sunbury, R. 2,	11.00
484		N. H. Schriver, Dillsburg,	
1059		Jacob Krug, Hastings,	
658	7% Potato Guano,	H. M. Yordy, Sunbury, R. 2,	10.21
637	†Lister's Special Crop Producer,	C. M. Sanders, Vicksburg,	8.40
682		J. H. Hersh, New Oxford,	
639	†Lister's Special 10% Fertilizer,	C. M. Sanders, Vicksburg,	8.77
1330		Henry Frock, McClure,	
209	†Lister's Special 10% Potato Fertilizer,	Miller & Enrich, Mechanicsburg,	9.94
149		Paul Buck, Nichols, N. Y.,	
287		Sylvester Garr, Easton R. 1,	
1808	Lister's Special Tobacco Fertilizer,	Geo. Bard, Leacock,	10.68
737	†Lister's Success Fertilizer,	P. C. Harned, Edinboro,	11.76
657		H. M. Yordy, Sunbury, R. 2,	
942		N. J. Nortou, New Albany,	
288	†Lister's 3-6-10 for Potatoes,	Sylvester Garr, Easton, R. 1,	10.92
210		Miller & Enrich, Mechanicsburg,	
452		B. S. Tallmage, McKean,	
1032	†Lister's U. S. Superphosphate,	Morrow & Buxton, Valinsia,	10.06
552		D. B. Griffith, Wolfsburg,	
1060		Jacob Krug, Hastings,	
	FREDERICK LUDLAM CO., BALTIMORE, MD.		
1826	†Ludlam's Cecrops Fertilizer, Harvest Queen.	G. C. Miller, Axe Mann,	10.01
1763		J. A. Stine, Holtz,	
1918		Wm. Allbright, Cochranville,	
1886	Ludlam's Cecrops Fertilizer, No. 2 for Grain and Grass.	Wm. J. Hess, Quarryville,	9.07
191	†Ludlam's Cecrops Fertilizer, Potato and Tobacco.	Ed. Diehl, Shippensburg, R. D.,	8.60
1608		S. L. Smith, Mill Creek,	
1048	Ludlam's Cecrops Fertilizer, Spring Special.	Benj. Stoner, Hellam,	7.13

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
*7.56	8.00	3.32	10.88	9.00	.80	3.90	4.70	4.00	.58	1.03	‡.22	1.25	1.24	24.88	22.00
*6.57	8.00	3.31	9.88	9.00	3.60	1.75	*5.35	6.00	1.36	1.72	¶.60	2.32	1.64	28.76	24.00
10.65	10.00	1.31	11.96	.....	1.07	2.57	3.64	2.00	.80	1.21	§.35	*1.56	2.47	27.08	26.50
*6.49	8.00	2.28	8.77	.....	2.27	1.59	3.86	4.00	.36	.63	§.36	.99	.82	20.76	22.00
8.05	7.50	1.75	9.80	8.50	.53	7.15	7.68	7.00	.67	1.36	§.68	2.04	2.06	31.90	30.00
*7.05	8.00	1.63	*8.68	9.00	7.07	.....	7.07	5.00	1.38	1.57	§.29	1.86	1.65	27.56	22.00
*7.40	8.00	.92	*8.32	9.00	2.83	.....	2.83	2.00	.70	.79	¶.22	1.01	.82	19.68	16.00
															.....
6.92	7.00	1.15	8.07	8.00	9.13	.....	*9.13	10.00	1.28	1.43	¶.23	1.66	1.65	28.30	28.00
															26.00
															.....
*7.76	8.00	1.67	9.43	9.00	3.68	.....	3.68	3.00	.90	1.32	‡.30	1.62	1.65	23.97	24.00
															25.00
															26.00
*9.74	10.00	1.76	11.50	11.00	4.16	.....	4.16	4.00	.95	1.30	§.46	1.76	1.65	27.15	26.00
															.....
8.22	8.00	1.21	9.43	9.00	4.57	.....	4.57	4.00	.27	.51	¶.39	.90	.82	21.86	22.00
															19.00
															24.00
8.15	8.00	.84	8.99	9.00	10.85	.....	10.85	10.00	.58	.81	§.26	1.07	.82	28.33	25.00
															26.00
															.....
8.26	8.00	.98	9.24	9.00	5.71	.....	5.71	5.00	.77	.95	§.19	1.14	.82	24.01	22.00
															21.00
															32.00
8.23	8.00	1.55	9.78	9.00	7.82	.....	7.82	7.00	2.54	2.97	§.43	3.40	3.29	36.55	35.00
															35.26
															42.00
6.23	6.00	1.28	7.51	7.00	6.14	.....	6.14	5.00	4.62	5.18	§.37	*5.55	5.80	42.58	17.00
7.59	7.00	1.08	8.67	8.00	1.61	.....	1.61	1.00	.53	.81	§.31	1.12	.82	19.21	21.00
															27.50
7.90	8.00	.85	*8.75	9.00	1.87	8.84	10.71	10.00	1.25	1.57	‡.18	1.75	1.65	33.25	27.00
															25.00
*6.84	8.00	2.70	9.54	9.00	9.06	2.33	11.39	10.00	.88	1.34	§.37	1.71	1.65	31.94	27.00
															25.00
8.58	8.00	.80	9.38	9.00	.40	3.28	3.68	3.00	1.58	1.85	§.29	2.14	2.06	27.70	24.00
8.91	9.00	1.42	10.33	10.00	2.00	.....	2.00	2.00	.86	1.15	§.37	1.52	1.23	22.96	21.00
															26.00
															29.00
6.64	6.00	1.11	7.75	7.00	9.88	.....	9.88	10.00	1.74	2.17	§.42	2.59	2.47	33.02	30.00
															31.00
															22.50
7.98	8.00	.97	8.95	9.00	2.60	.....	2.60	2.00	.70	.91	§.21	1.12	1.03	20.53	19.00
															21.70
															20.50
8.34	8.00	1.25	9.59	9.00	2.12	.....	2.12	2.00	.47	.72	§.22	.94	.82	19.82	19.00
															22.00
7.61	7.00	.85	8.46	8.00	1.35	.....	1.35	1.00	.50	.73	§.28	1.01	.82	18.40	17.00
7.94	8.00	1.02	8.96	9.00	10.41	.....	10.41	10.00	1.21	1.43	§.24	1.67	1.65	30.50	.....
															.....
9.72	9.00	.87	10.59	10.00	5.73	.67	*6.40	7.00	.68	.89	§.23	1.12	.82	26.07	22.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡two-fifths or less; §=two-fifths to three-fifths: ¶=three-fifths or more.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
1825	†Ludlam's Cecrops Fertilizer, Standard Potash.	G. C. Miller, Axemann,	10.62
1764		J. A. Stine, Holtz,	
1887		Wm. J. Hess, Quarryville,	
	THE MAPES FORMULA AND PERUVIAN GUANO CO., NEW YORK.		
2029	The Mapes Average Soil Complete Manure,	McDraine & Bro., Gap.,	7.23
874	The Mapes Cereal Brand,	Hilles & Taggart, Norristown,	6.38
872	The Mapes Corn Manure,	Hilles & Taggart, Norristowu,	7.71
1981	†The Mapes Economical Potato Manure,	A. F. Kimmel, Orwigsburg,	6.86
2028		McDraiue & Bro., Gap.,	
1875	Mapes General Crop Brand,	W. H. Muth & Co., Lititz,	5.91
871	Mapes Potato Manure,	Hilles & Taggart, Norristown,	5.62
1874	Mapes Tobacco Starter Improved,	W. H. Muth & Co., Lititz,	8.36
873	The Mapes Top Dresser, Improved, (Full Strengtb).	Hilles & Taggart, Norristown,	6.04
	D. B. MARTIN CO., PHILADELPHIA, PA.		
1089	†Martin's Corn and Cereal Special,	Amandes Wootring, Schnecksville,	11.32
373		Harry Pyle, Cassart,	
1307	†Martin's Crop Producer,	A. B. Stauffer, Port Trevorton,	10.83
375		Harry Pyle, Cassart,	
1980	†Martin's Early Truck and Vegetable Grower.	A. F. Kimmel, Orwigsburg,	7.83
1114		J. J Shoemaker, Walnutport,	
1305	†Martin's Gilt Edge Potato Manure,	A. B. Stauffer, Port Trevorton,	8.35
1977		A. F. Kimmel, Orwigsburg,	
2056		Adam Martin, East Earl R. 2,	
326	†Martin's One, Eight and Four,	W. S. Kerstetter, Sunhury, R. 3,	11.61
119		J. S. Moore, Oak Dale,	
564		John Miller, Rock,	
356	†Martiu's Prize Potato,	Passmore & Co., Nottingham,	11.73
286		Edwin Houck, Bangor,	
635		H. P. Kemples, Mifflinsburg,	
628	†Martin's Special Compound,	H. P. Kemples, Mifflinsburg,	12.25
357		Passmore & Co., Nottingham,	
745		J. S. Moore, Oak Dale,	
591	†Martin's Special Potato Manure,	Edwin Houck, Bangor,	12.25
574		Harry Pyle, Cossart,	
1304	†Martin's Sure Grower,	A. B. Stauffer, Port Trevorton,	10.57
589		Edwin Houck, Bangor,	
649		W. S. Kerstetter, Sunhury, R. 3,	
	FREDERICK MEHRING, BRUCEVILLE, MD.		
694	General Crop Grower,	Jno. J. Spangler, Littlestown,	9.84
695	Twenty-six Dollar Phosphate,	Jno. J. Spangler, Littlestown,	8.77
	THE MILLER FERTILIZER CO., BALTIMORE, MD.		
319	†Club Brand,	Walter & Frederick, Montandon,	8.38
1457		E. H. Sterner, Codorus,	
678	†Farmer's Profit,	H. M. McIlhenny, Gettysburg,	8.21
72		D. E. Esh, Spruce Hill,	
1300	†Harvest Queen Phosphate,	H. H. Klinger, Selinsgrove,	7.13
1238		A. S. Welsh, Mt. Uniou,	
1921	†Pimlico,	Miller F. Harkins, Hickory Hill,	8.16
571		W. H. Hoffman, New Tripoli,	
318		Walter & Frederick, Montandon,	
1776	Potato and Vegetable Grower,	L. F. Hilderland, Loganville,	7.87
1299	Standard Phosphate,	H. H. Klinger, Selinsgrove,	8.27
1920	†W. G. Phosphate,	Miller F. Harkins, Hickory Hill,	6.85
207		J. R. Miller's Sons, New Kingston,	
1456		E. H. Sterner, Codorus,	
	NASSAU FERTILIZER CO., NEW YORK.		
1092	†Common Sense Potato Manure,	Chas. Gilbert, Snyders,	10.84
1008		Jno. F. Fisher, Boyertown,	
1331		J. D. Grayhill & Sons, Belleville,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.			Total.				Total.					Total.			
Found.	Guaranteed.	Insoluble.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Water soluble.	Available.	Inactive insoluble.	Found.	Guaranteed.		
8.28	8.00	1.06	9.34	9.00	4.48	.....	4.48	4.00	.53	.80	§.20	1.00	.82	22.22	21.25 20.00 20.00
6.96	7.00	.87	7.83	.....	1.06	5.09	6.15	‖5.00	3.99	4.25	§.34	4.59	4.12	40.05	.....
*4.56	6.00	4.30	8.86	8.00	1.73	1.98	3.71	3.00	.95	1.34	§.47	1.81	1.65	23.34	30.00
*5.95	8.00	4.16	10.11	10.00	6.33	....	6.33	6.00	1.94	2.19	§.36	2.55	2.47	30.19	36.00
*3.48	4.00	3.11	6.59	6.00	1.20	8.51	9.71	‖8.00	3.01	3.33	§.34	3.67	3.29	37.46	38.00 .....
8.16	8.00	2.27	10.43	10.00	.67	1.69	2.36	2.00	1.12	1.42	§.33	1.75	1.65	24.49	24.00
7.84	8.00	1.43	9.27	9.00	.80	6.29	7.09	‖6.00	3.61	3.84	§.29	4.13	3.71	40.33	42.00
6.91	6.00	1.26	8.17	8.00	.40	1.47	1.87	‖1.00	2.46	3.57	§.92	4.49	4.12	34.69	38.00
6.29	5.00	1.33	*7.62	8.00	.52	4.08	4.60	‖4.00	9.65	9.94	‡.19	10.13	9.88	63.14	58.00
8.18	8.00	1.89	10.07	.....	3.33	.....	3.33	2.00	1.17	1.39	¶.36	1.75	1.65	24.82	20.00 21.00 18.50
*9.75	10.00	1.50	11.25	.....	.40	.43	.83	.....	.67	.86	¶.35	1.21	1.03	21.46	16.00 17.00
7.36	6.00	.80	8.16	.....	9.03	.....	9.03	8.00	2.95	3.11	¶.28	3.39	3.30	36.48	27.00 30.00
6.98	7.00	.96	7.94	.....	2.66	7.65	10.31	10.00	1.76	2.19	§.44	2.63	2.47	35.80	26.00 28.00
8.63	8.00	1.12	9.75	.....	4.18	.....	4.18	4.00	.43	.57	¶.33	.90	.82	21.88	17.00 24.00
8.84	8.00	.91	9.75	.....	10.31	.....	10.31	10.00	1.07	1.27	¶.33	1.60	1.65	31.04	..... 27.00 ....
8.82	8.00	1.28	10.10	.....	4.66	.....	*4.66	5.00	.60	.86	§.47	*1.33	1.65	24.62	..... 24.00 28.00
8.21	8.00	.99	9.20	.....	5.17	.....	5.17	5.00	.63	.80	§.25	1.05	.82	22.98	20.50 20.00 17.25
8.67	8.00	1.40	10.07	.....	1.58	.....	1.58	1.00	.49	.68	¶.36	1.04	.82	20.22	17.50 16.00
12.41	10.00	1.87	14.28	11.00	3.56	.....	3.56	3.00	.37	.63	¶.44	1.07	.82	26.16	18.50
13.67	11.00	2.41	16.08	12.00	3.28	.....	3.28	3.00	.73	1.11	§.35	1.46	1.44	29.31	20.00
8.78	8.00	.56	9.34	8.50	2.67	.....	2.67	2.00	.23	.36	¶.25	.61	.42	18.92	16.00 16.50
8.33	8.00	.89	9.22	8.50	5.26	.....	5.26	5.00	.47	.59	¶.23	.82	.83	22.02	..... 19.50 .....
*8.72	9.00	.84	9.56	9.50	2.74	.....	2.74	2.75	1.00	1.18	§.25	1.43	1.03	22.94	..... 24.00
8.25	8.00	.80	9.05	8.50	10.11	.....	10.11	10.00	1.26	1.45	§.26	1.71	1.65	30.64	27.50 26.00 26.00
8.61	8.00	.97	9.58	8.50	4.13	.....	4.13	4.00	1.12	1.34	¶.35	1.69	1.65	25.34	.....
8.39	8.00	1.03	9.42	8.50	3.50	.....	3.50	3.00	2.11	2.45	§.31	2.76	2.47	29.26	28.00
7.71	7.00	.51	8.22	7.50	1.82	.....	1.82	1.00	.24	.34	¶.20	.54	.42	16.74	15.85 14.50
8.09	8.00	1.28	9.37	9.00	5.19	.....	5.19	4.00	1.10	1.41	§.34	1.75	1.65	26.24	..... 24.00 28.50

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.

*Constituent falls below guaranty. ‖Maker claims all potash added is sulphate. See note on p. 20.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	NASSAU FERTILIZER CO., Continued.		
574	†General Favorite,	Clinton Grammar, Trexlertown,	10.15
213		J. H. Koller, Mechanicsburg,	
951		Peter Ace, Tunkhannock,	
34	†Gladiator Truck and Potato,	C. H. Detwiler, Roaring Springs,	7.44
1491		Lester Tompson, Schultzville,	
154	†Nassau Practical,	Martin Allyn, Nichols, N. Y.,	9.44
1732		Geo. Nyce, Bushkill,	
155	†Old Hickory,	Martin Allyn, Nichols, N. Y.,	10.88
1102		Louis Husted, Dallas, R. 1,	
153	†Special Potato Fertilizer,	Martin Allyn, Nichols, N. Y.,	9.73
36		C. H. Detwiler, Roaring Springs,	
214		J. H. Koller, Mechanicsburg,	
	G. OBER & SONS CO., BALTIMORE, MD.		
504	†Ober's Stag Guano,	D. Blocher & Co., Gettysburg,	8.42
328		John Phillips, Sunbury, R. 3,	
1837		Wagner Gise, Bellefonte,	
	OXFORD PACKING WORKS, OXFORD, PA.		
1916	O. P. W. No. 1,	J. C. Fisher, Cochransville,	11.51
1917	O. P. W. No. 2,	J. C. Fisher, Cochransville,	11.04
	PATAPSCO GUANO CO., BALTIMORE, MD.		
206	†Coon Brand Guano,	John Walter, Mechanicsburg,	11.85
99		R. C. Mountsier, Charleroi,	
528		Jas. McNelis, Hastings, R. 2,	
527	Grange Mixture,	Jas. McNelis, Hastings, R. 2,	8.83
612	†Patapsco B. B. & P. Brand,	J. S. Harley, Thompsontown,	9.53
278		Chas. Shimmel, Ackermansville,	
673		E. C. Thomas, Gettysburg,	
956	Patapsco Best Grade Fertilizer,	Oscar Van Bushkirk, Bald Mount,	8.64
1165	†Patapsco Corn and Tomato Fertilizer,	Jos. Burkholder, Hummelstown,	10.44
614		J. S. Harley, Thompsontown,	
1674		Russell Bros., Washington,	
578	†Patapsco Early Trucker for Quick Growth.	W. T. Hoover, Bethlehem, R. 3,	7.60
1046		H. P. Hocher, Wrightsville,	
607	†Patapsco Fish Guano,	J. S. Harley, Thompsontown,	7.95
1700		Chas. S. Bruner, New Bloomfield, R. 3.	
675	†Patapsco Grain and Grass Producer,	E. C. Thomas, Gettysburg,	10.25
274		Chas, Shimmel, Ackermansville,	
1057		Jas. McNelis, Hastings,	
98	†Patapsco Potato Manure,	R. C. Mountsier, Charleroi,	7.80
615		J. S. Harley, Thompsontown,	
577	†Patapsco Premium Super Phosphate,	W. F. Hoover, Bethlehem, R. 3,	9.97
955		Oscar Van Bushkirk, Bald Mount,	
751	†Patapsco Tobacco and Potato Fertilizer,	W. B. Thom Hdw. Co., Tarentum,	11.83
1045		H. P. Hocker, Wrightsville,	
1701	Sea Gull Guano,	Chas. S. Brunner, New Bloomfield, R. 3.	10.89
	J. D. PERKINS, COATESVILLE, PA.		
339	Perkins Monarch Phosphate,	Edw. Tingley, New London,	10.83
	VALENTINE PETROSKYS SONS, LATROBE, PA.		
1184	Petrosky's Complete Fertilizer,	P. H. Saxman, Latrobe,	3.64
	PHILADELPHIA CHEMICAL CO., PHILADELPHIA, PA.		
1360	Special Potato Grower,	J. L. Royer, Myerstown, R. 4,	8.84
1361	Potato and Tomato Grower,	J. L. Royer, Myerstown, R. 4,	11.40
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.		
1064	†Insula Guano for all Crops,	A. F. Stultzman & Co., Johnstown,	6.43
1716		A. H. Ulsh, Millerstown,	
13	Piedmont Cabbage and Potato Guano,	M. E. Thomas, Salladasburg,	8.24

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
9.35	8.00	.66	10.01	9.00	4.56	.....	4.56	4.00	.57	.79	§.24	1.03	.82	23.41	..... 18.50 22.00
7.62	7.00	1.30	8.92	8.00	7.01	.....	7.01	7.00	2.40	2.97	‡.38	3.35	3.29	34.77	32.00 35.00
7.93	8.00	2.33	10.26	9.00	5.90	.....	5.90	6.00	1.97	2.38	§.32	2.70	2.47	31.59	26.54 26.00
10.23	8.00	1.52	11.75	9.00	8.26	.....	8.26	8.00	.74	.91	§.12	1.03	.82	28.28	22.20 27.00
7.96	8.00	1.47	9.43	9.00	10.13	.....	10.13	10.00	1.25	1.51	§.20	1.71	1.65	30.75	24.88 27.50 26.00
8.64	8.00	.54	9.18	9.00	4.64	.....	4.64	4.00	.61	.87	§.18	1.05	.82	22.74	22.00 19.00 18.90
9.07	7.00	1.59	10.66	8.00	5.77	3.31	*9.08	10.00	.56	1.05	§.57	1.62	1.44	31.22	27.00
10.09	8.00	1.21	11.30	9.00	3.33	2.54	5.87	6.00	.76	1.17	§.52	1.69	1.44	29.26	25.00
9.24	9.00	1.02	10.26	10.00	3.42	.....	3.42	3.00	.46	.69	§.27	.96	.82	21.91	..... 24.00 21.00
7.98	8.00	.96	8.94	9.00	2.34	.....	2.34	2.00	1.39	1.60	§.20	1.80	1.65	23.48	23.00
8.08	8.00	1.16	9.24	9.00	2.35	.....	2.35	2.00	.41	.58	§.13	.71	.41	18.67	16.00 18.00 16.00
*7.52	8.00	.84	*8.36	9.00	6.00	4.56	10.56	10.00	2.50	3.14	‡.41	3.55	3.29	39.87	36.00
*8.70	9.00	1.41	10.11	10.00	2.15	.....	2.15	2.00	.76	.99	§.30	1.29	1.23	21.94	22.00 20.00 27.00
7.44	7.00	1.08	8.52	8.00	5.57	.....	5.57	5.00	2.89	3.55	§.56	4.11	4.11	36.52	31.00 33.00
7.25	6.00	.68	7.93	7.00	3.07	.....	3.07	2.00	1.16	1.50	§.27	1.77	1.65	23.04	19.50 21.50
8.44	8.00	1.19	9.63	9.00	4.11	.....	4.11	4.00	.49	.73	‡.27	1.00	.82	22.09	20.50 22.00 21.00
5.67	5.00	.70	6.37	6.00	9.88	.....	9.88	10.00	1.26	1.55	‡.14	1.69	1.65	27.75	30.00 25.00
8.58	8.00	.92	9.50	9.00	10.31	.....	10.31	10.00	1.04	1.47	§.35	1.82	1.65	31.70	26.00 30.00
8.26	8.00	1.17	9.43	9.00	4.00	.....	4.00	4.00	1.19	1.37	§.26	1.63	1.65	24.79	24.00 23.00
8.60	8.00	.60	9.20	9.00	1.65	.....	1.65	1.00	.59	.74	‡.23	.97	.82	19.38	19.00
10.03	10.00	1.57	11.60	.....	5.34	.....	5.34	5.00	.91	1.25	‡.18	1.43	1.23	27.14	27.00
*4.53	10.00	6.69	11.22	.....	5.33	.68	6.01	5.50	1.87	3.34	§1.37	*4.71	6.00	39.62	30.00
8.89	8.00	1.59	*10.48	11.00	4.40	3.30	*7.70	10.00	.62	1.02	¶.58	1.60	1.64	29.73	27.00
8.97	6.00	2.82	11.79	9.00	2.40	2.90	5.30	5.00	1.20	1.82	§.53	2.35	1.64	31.42	26.00
7.44	7.00	.85	8.29	.....	2.71	.....	2.71	2.00	.33	.42	¶.22	.64	.41	17.96	18.00 16.00
9.24	8.00	.39	9.63	.....	10.40	.....	10.40	10.00	1.31	1.56	§.22	1.78	1.65	32.22	29.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	PIEDMONT MT. AIRY GUANO CO.—Continued.		
498	†Piedmont Fenna. Potato Producer, ...	H. D. & J. F. Bream, Gettysburg,	7.78
11		M. E. Thomas, Salladasburg, ...	
779		H. J. Kilmore, Lisburn, ...	
1065	Piedmont Pure Raw Bone Mixture, ...	A. F. Stultzman & Co., Johnstown,	8.16
499	†Fenna. Grain Grower, ...	H. D. & J. F. Bream, Gettysburg,..	7.57
14		M. E. Thomas, Salladasburg, ...	
718		Jas. Manst, Salesburg, ...	
	PITTSBURG PROVISION AND PACKING CO., PITTSBURG, PA.		
1672	†Corn and Potato Fertilizer, ...	John H. Lared, Wylandville, ...	6.75
1188		Youngwood Lumber & Supply Co., Youngwood.	
1952		West Newton Milling Co., West Newton.	
749	Lawn Fertilizer, ...	C. A. Foster, Carnegie, ...	6.77
1189	†Special Potato Fertilizer, ...	Youngwood Lumber & Supply Co., Youngwood.	7.34
1953		West Newton Milling Co., West Newton.	
1822	3½-7-7, ...	Western Penitentiary Farm, Bellefonte.	6.80
	THE POLLOCK FERTILIZER CO., BY AM. AG. CHEM. CO., NEW YORK.		
125	†Crop Invigorator, ...	Andrew Kaufman, Johnstown, ...	11.12
503	†Pollock's Ammoniated Super Phosphate,	E. S. Kelly, Gettysburg, ...	8.95
1243		A. R. Foster, Mapleton, ...	
1777		J. H. Scott, Petersburg, ...	
531	Pollock's Special Wheat and Corn Fertilizer.	Frank Oster, Osterburg, ...	9.98
	THE RAMSBURG FERTILIZER CO., FREDERICK, MD.		
252	Ramsburg Old Virginia Compound, ...	Franklin Miller & Son, Greencastle, R. 2.	7.97
	RASIN MONUMENTAL CO., BALTIMORE, MD.		
1302	†Monumental Potato Manure, ...	Geo. A. Botdorf, Freeburg, ...	8.77
506		Chas. Yeackle, Patton R. 1, ...	
1517	†Rasin's Empire Guano, ...	H. B. Low & Son, Orangeville, ...	15.73
507		Chas. Yeackle, Patton, ...	
1520	†Rasin's Genesee Valley Root Manure, ..	H. B. Low & Son, Orangeville, ...	7.94
68		W. W. Book, Port Royal, ...	
362	†Rasin's I. X. L. Fertilizer, ...	W. H. Walker & Co., Kennett Sq.,	14.56
1039		J. D. Markle, Hanover, ...	
1291	†Rasin's National Crop Compound, ...	Chas. McCormick, State College, ..	13.99
423		Geo. E. Buck, Sr., Lenhartsville, R. 1.	
320		S. P. Snyder, Northumberland, R. 2,	
1106	†Rasin's Royal Fish Bone and Potash, ..	Oliver Uhler, Easton, R. D. 1, ..	12.15
370		S. C. Walker & Co., Chadd Ford Junc.	
321		S. P. Snyder, Northumberland, ...	
1107	Rasin's Special for Vines and Vegetables,	Oliver Uhler, Easton, R. D. 1, ..	10.37
1532	†Rasin's Vegetable Special, ...	H. A. Snyder, Strawberry Ridge,..	11.65
508		Chas. Yeackle, Patton, R. 1, ...	
369		S. C. Walker & Co., Chadd Ford Junc.	
736			
67	Rasin's Wheat, Corn and Oats Mixture,..	W. A. Porter, Cambridge Springs,..	10.85
1518	†Rasin's XXX Fertilizer, ...	W. W. Books, Port Royal, ...	10.33
1559		H. B. Low & Son, Orangeville, ..	
1454	†William Penn Crop Grower, ...	W. E. Wiley, Stewartstown, ...	11.41
261		Elwood S. Shire, Glatfelters, ...	
1531		W. H. Walker & Co., Kennett Sq.,	
		H. A. Snyder, Strawberry Ridge, ..	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
8.49	6.00	.43	8.92	.....	8.36	.....	*8.36	10.00	.64	.82	§.23	*1.05	1.65	26.07	26.00 27.00 26.00
*7.62	8.00	3.69	11.31	.....	2.73	.....	2.73	2.00	1.19	1.53	‡.18	1.71	1.03	24.32	27.00
8.29	7.00	.57	8.86	.....	5.32	.....	5.32	5.00	.29	.52	¶.35	.87	.82	22.10	21.00 23.00 21.00
*8.16	9.00	1.77	*9.93	11.00	4.03	.....	4.03	3.00	.27	.89	¶.54	1.43	1.43	24.08	25.00 25.00 26.00
9.00	4.00	5.19	*14.19	16.00	2.63	.....	2.63	1.50	.43	1.23	§1.08	*2.31	2.87	29.11	30.00
10.44	9.00	2.35	12.79	10.00	5.60	2.06	7.66	7.00	.37	.91	§.63	1.54	1.64	31.09	30.00 30.00
9.04	.....	1.87	10.91	.....	4.67	2.65	7.32	.....	1.04	2.11	§1.03	3.14	.....	36.52	.....
8.21	8.00	1.12	9.33	9.00	4.30	.....	4.30	4.00	.45	.64	¶.27	.91	.82	21.57	20.25 18.50
8.16	8.00	.98	9.14	9.00	2.35	.....	2.35	2.00	1.18	1.53	§.23	1.76	1.65	23.43	22.50 15.50
7.95	8.00	1.10	9.05	9.00	2.66	.....	2.66	2.00	.45	.68	§.28	.96	.82	19.92	18.00
8.78	8.00	1.87	10.65	10.00	4.70	.....	4.70	4.00	.62	.92	‡.18	1.10	1.00	23.79	19.00
6.20	6.00	.98	7.18	7.00	6.81	.....	6.81	7.00	.88	1.37	§.49	1.86	1.65	24.17	24.00 24.00
8.22	8.00	1.66	9.88	9.00	2.45	.....	2.45	2.00	1.11	1.33	§.32	1.65	1.65	23.48	23.50 20.50 19.75
8.51	8.00	1.82	10.33	9.00	10.78	.....	19.78	10.00	.54	.70	¶.26	.96	.82	28.69	26.00
10.41	9.00	.64	11.05	10.00	2.85	.....	2.85	3.00	.75	.94	§.17	1.11	.82	23.07	27.00 19.00 19.00
8.40	8.00	2.08	10.48	9.00	5.18	.....	5.18	4.00	.65	.76	¶.28	1.04	.82	23.76	18.00 18.00 .....
7.94	8.00	2.11	10.05	9.00	3.74	.....	3.74	3.00	.80	1.23	§.50	1.73	1.65	25.10	24.00 20.75 .....
8.35	8.00	1.25	9.60	9.00	4.67	3.21	7.88	8.00	.80	.92	§.15	1.07	.82	26.66	21.50
8.17	8.00	1.56	9.73	9.00	10.33	.....	10.33	10.00	1.14	1.48	§.35	1.83	1.65	31.86	26.55 28.50 28.00
8.27	8.00	1.56	9.83	9.00	2.82	.....	2.82	2.00	.63	.71	§.11	.82	.41	19.95	16.50
8.50	8.00	1.47	9.97	9.00	5.05	.....	5.05	5.00	1.24	1.45	§.27	1.72	1.65	26.37	22.00 22.50
*7.56	8.00	1.64	9.20	9.00	1.61	.....	1.61	1.00	.57	.72	§.13	.85	.82	18.31	16.50 19.00 16.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less: §=two-fifths to three-fifths: ¶=three-fifths or more.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	ROBERT A. REICHARD, ALLENTOWN, PA.		
267	†Golden Harvest Phosphate,	Wm. Mittman, Easton, R. 2,	8.07
1086		Jas. F. Bachman, Schnecksville,	
266	Improved Top Dresser,	Wm. Mittman, Easton, R. 2,	6.97
265	†Lehigh Potato Manure,	Wm. Mittman, Easton, R. 2,	8.37
570		W. H. Hoffman, New Tripoli,	
569		W. H. Hoffman, New Tripoli,	
273	†Peerless Phosphate,	Wm. Mittman, Easton, R. 2,	7.00
921		Fred. Roth, Bloomsburg R. 2,	
270	Trucker's Favorite,	Wm. Mittman, Easton, R. 2,	7.43
268	Special Fertilizer,	Wm. Mittman, Easton, R. 2,	9.82
	READING BONE FERTILIZER CO., READING, PA.		
517	†Gilt Edge Potato and Tobacco Grower,	Wm. A. Westrick, Patton, R. 2,	7.42
470		Isaac Stoltzfus, Elverson, R. 3,	
620		Union Hdwre. Co., Mifflinburg,	
460	†Farmer's Tankage and Potash for Corn, Grain and Grass.	John W. Slipp, Birdsboro,	6.47
298		L. F. Jones, Milan,	
920		Jacob Krum, Bloomsburg, R. 2,	
994	Never Fail Crop Grower,	Jacob D. Moyer, Bechtelsville, R. 1,	8.85
473	Reading All Crop Special,	Isaac Stoltzfus, Elverson, R. 3,	7.75
471	Reading Prize Winner,	Isaac Stoltzfus, Elverson, R. 3,	7.00
647	†Reading Special Potato and Tobacco Manure.	Oscar Bowersox, Millmont,	5.86
474		Isaac Stoltzfus, Elverson, R. 3,	
1205		J. C. Shuman, Mainville,	
519	†Reading Sterling Potato Grower,	Wm. A. Westrick, Patton, R. 2,	11.51
472		Isaac Stoltzfus, Elverson, R. 3,	
1329		Benj. Hoffman, McClure,	
995	Schuylkill Valley Favorite for Grain and Grass.	Jacob D. Moyer, Bechtelsville, R. 1	7.34
1356	†Tobacco and Truck Special,	C. R. Bucher, Myerstown, R. 4,	6.56
1869		Henry Lutz, Denver, R. 1,	
	F. S. ROYSTER GUANO CO., BALTIMORE, MD.		
1902	†Royster's Big Chief Tobacco Guano,	J. N. Getz Co., Lock Haven,	6.39
2093		J. F. King, Lawrenceville,	
1633	†Royster's Big Yield Potato Producer,	M. F. Schall, Kittanning,	7.51
1230		C. E. Huston & Bro., Three Springs,	
1903		J. H. Getz Co., Lock Haven,	
1088	†Royster's Challenge Complete Compound,	Amandes Wootring, Schnecksville,	10.51
813		W. F. Peters, Dauphin, R. 1,	
1218		W. J. Hidlay, Bloomsburg,	
1432	†Royster's Champion Crop Compound,	Lewis Sturgrate, Mercer,	10.76
1484		A. W. & F. H. Mentzer, Ephrata,	
1012	†Royster's Complete Potato Manure,	Reynoldsville Hdw. Co., Reynoldsville.	8.85
		S. A. Phillippy, Schaefferstown, R. 1.	
1354	†Royster's Excellenza Tobacco Guano,	Adrian West, Tioga,	7.92
1592		J. N. Getz Co., Lock Haven,	
1901			
1033	Royster's Farmer's Delight Fertilizer,	A. P. Lippy & Son, Littlestown,	6.15
406	†Royster's Gold Seal Potato and Cabbage Special.	Geo. Schwalm, Muir,	10.12
85		F. P. Allen, Titusville,	
596	†Royster's Harvest King Fertilizer,	John Kunkel, Bath,	8.87
752		Chas. T. Wills & Co., Parnassus,	
1593		Adrian West, Tioga,	
1011	Royster's Imperial Formula,	Reynoldsville Hdw. Co., Reynoldsville.	8.41
1010	†Royster's Lehigh Potato Grower,	Reynoldsville Hdw. Co., Reynoldsville.	8.71
404		Geo. Schwalm, Muir,	
1193		Eicher & Groft, Scottdale,	
405	†Royster's Practical Truck Guano,	Geo. Schwalm, Muir,	9.64
1355		S. A. Phillippy, Schaefferstown, R. 1.	
766	Royster's Prolific Potato Producer,	J. A. Magee & Son, Clarion,	6.50
1580	Royster's Universal Crop Grower,	J. A. Yost, Ringtown,	6.20

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
8.32	8.00	.41	*8.73	10.00	6.38	.....	6.38	5.00	.85	1.18	§.41	1.59	1.64	26.55	22.00 23.00
6.05	6.00	.60	*6.65	7.50	6.27	.43	6.70	4.00	6.96	7.15	§.12	7.27	6.58	50.46	40.00
8.22	8.00	.45	*8.67	10.00	10.08	.....	10.08	10.00	.84	1.13	§.41	1.54	1.64	29.74	27.25 28.00
8.10	8.00	.87	*8.97	9.50	4.75	.....	4.75	4.00	.26	.57	§.31	.88	.82	21.74	20.50 18.50 20.50
6.87	6.00	1.19	8.06	7.50	7.45	.....	*7.45	8.00	1.61	2.44	‡.44	*2.88	3.28	32.34	32.00
8.02	8.00	.33	8.35	.....	10.10	.....	10.10	10.00	1.68	2.79	‡.54	3.33	3.29	35.26	32.00
7.10	7.00	1.25	8.35	8.00	10.12	.....	10.12	10.00	.89	1.39	‡.22	1.61	1.64	28.64	29.00 27.50 30.00
8.75	8.00	.94	9.69	9.00	4.16	.....	4.16	4.00	.34	.72	‡.22	.94	.82	22.10	24.00 22.50 19.50
8.06	8.00	.80	8.86	9.00	1.98	.....	1.98	1.00	.50	.79	§.23	1.02	.82	19.42	20.00
*6.34	7.00	2.37	8.71	8.00	5.42	.....	5.42	5.00	.82	1.41	‡.21	1.62	1.64	24.49	24.00
*7.29	9.00	3.27	10.56	10.00	11.18	.....	*11.18	12.00	1.76	2.24	‡.22	2.46	2.46	35.34	32.90
6.44	6.00	.89	7.33	7.00	6.71	.....	*6.71	7.00	.43	.67	§.27	.94	.82	22.17	24.00 32.00 22.00
8.57	8.00	.51	9.08	9.00	10.91	.....	10.91	10.00	.53	.76	§.23	.99	.82	28.44	22.00 25.00 29.50
*6.77	7.00	.87	*7.64	8.00	2.50	.....	2.50	2.00	.28	.46	¶.12	.58	.41	16.86	19.00
6.03	6.00	.89	6.92	7.00	5.51	.....	*5.51	6.00	.47	2.31	‡.16	2.47	2.46	27.43	24.00 30.00
8.72	8.00	.61	9.33	8.50	4.00	6.15	10.15	10.00	1.21	1.90	‡.23	2.13	1.65	34.64	31.00 30.00
5.89	5.00	.71	6.60	5.50	10.00	.....	10.00	10.00	1.36	1.68	‡.20	1.88	1.65	29.02	26.50 25.50 29.00
8.61	8.00	.84	9.45	8.50	6.66	.....	6.66	6.00	1.14	1.46	§.28	1.74	1.65	27.94	23.00 ..... 24.00
8.75	8.00	.77	9.52	8.50	4.37	.....	4.37	4.00	1.08	1.42	‡.18	1.60	1.65	25.16	23.00 23.50
6.95	6.00	.42	7.37	6.50	10.47	.....	10.47	10.00	2.01	2.58	§.42	*3.00	3.29	35.40	20.00 32.50
8.36	8.00	.76	9.12	8.50	1.33	5.37	*6.70	7.00	2.04	3.13	‡.51	3.64	3.29	37.64	35.00 36.00
*7.40	8.00	1.32	8.72	8.50	2.53	.....	2.53	2.00	.32	.47	§.12	.59	.41	17.76	16.00
8.16	8.00	1.18	9.34	8.50	10.21	.....	10.21	10.00	1.12	1.46	§.28	1.74	1.65	31.06	..... 30.75 28.00
8.34	8.00	1.25	9.59	8.50	4.96	.....	4.96	2.00	1.20	1.56	‡.20	1.76	1.65	26.25	24.00 20.00
8.93	8.00	.99	9.92	8.50	3.91	.....	3.91	4.00	.77	.91	‡.07	.98	.82	22.27	20.00
6.98	7.00	.80	7.78	7.50	15.51	.....	15.51	15.00	.75	.99	‡.12	1.11	.82	31.82	26.50 ..... 33.00
8.66	8.00	.71	9.37	8.50	5.98	.....	5.98	6.00	2.05	2.58	‡.22	2.80	2.47	32.08	..... 28.00
6.11	6.00	1.28	7.39	6.50	5.28	.....	5.28	5.00	.88	1.18	§.25	1.43	1.23	22.95	27.00
7.34	7.00	1.12	8.46	7.50	1.46	.....	1.46	1.00	.56	.76	‡.13	.89	.82	17.92	19.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	F. S. ROYSTER GUANO CO.—Continued.		
1013	†Royster's Wheat, Oats and Barley Fertilizer.	Reynoldsville Hdw. Co., Reynoldsville.	8.69
87		F. P. Allen, Titusville, ...	
1309		John M. Sharer, Newton Hamilton,	
	SCHAAL SHELDON FERTILIZER CO., ERIE, PA.		
1847	Empire, ...	Harry Shirk, Centre Hall, ...	8.76
433	Schaal's Corn and Potato, ...	Brooklyn Milling So., Spartausburg,	8.25
451	Schaal's Guano, ...	Brooklyn Milling Co., Spartausburg,	8.25
1848	Schaal's Standard, ...	Harry Shirk, Centre Hall, ...	10.75
1850	Trueker's Manure, ...	Harry Shirk, Centre Hall, ...	8.60
	SCOTT FERTILIZER CO., ELKTON, MD.		
230	†Corn and Oats Grower, ...	Levi Beiler, Elverson, R. D. 3, ..	6.82
1173		Elias Brubaeher, Richland, ...	
229	New Jersey White Potato Grower	Levi Beiler, Elverson, R. D. 3, ..	6.71
887	†Potato Grower, ...	Wm. C. Holbrook, Ereildown, ...	
228		Levi Beiler, Elverson, R. D. 3, ..	8.57
1172		Elias S. Brubacher, Richland, ...	
227	†Potato and Truck Special, ...	Levi Beiler, Elverson, R. D. 3, ..	9.30
1392		Wm. C. Holbrook, Ereildown, ...	
431	Sure Crop Grower for Wheat and Grass, ..	E. D. Greenawalt, Albany, ...	7.12
1170	†Sure Growth Compound, ...	Elias S. Brubacher, Richland, ...	
2009	†Sure Growth Super Phosphate, ...	S. Brook & Bros., Quarryville, ..	7.86
226		Levi Beiler, Elverson, R. D. 3, ..	9.46
888		Wm. C. Holbrook, Ereildown, ...	
	A. B. SCHUMACHER, HAZELTON, PA.		
1570	General Brand, ...	H. F. Houseknecht, Seybertville, ..	9.77
	M. L. SHOEMAKER & CO., LTD., PHILADELPHIA, PA.		
868	Echo Super Phosphate, ...	Hilles & Taggart, Norristown, ...	7.59
235	†Swift Sure Guano for Tomatoes, Truck and Corn.	L. A. Geiger, Joanna, ...	8.25
383		Henry S. Beidler, Doylestown, ...	
382	Swift Sure New Jersey Special for Oats, ..	Henry S. Beidler, Doylestown, ..	7.40
468	†Swift Sure Special 10% Potato Fertilizer No. 1.	Stephen M. Stoltzfus, Morgantown,	7.79
1120		Theophilus Gangaware, Cherryville,	
469	†Special 10% Potato Fertilizer No. 2, ...	Stephen M. Stoltzfus, Morgantown,	9.09
384		Henry S. Beidler, Doylestown, ...	
1119		Theophilus Gangaware, Cherryville,	
1118		Theophilus Gangaware, Cherryville,	
869	†Swift Sure Super Phosphate for General Use.	Hilles & Taggart, Norristown, ...	9.82
1583		Frank Hain, Friedensburg, ...	
870	Swift Sure Super Phosphate for Potatoes,	Hilles & Taggart, Norristown, ...	8.31
234	Twenty Three Dollar Super Phosphate, ..	L. A. Geiger, Joanna, ...	8.10
	SMITH AGRICULTURAL CHEMICAL CO., COLUMBUS, O.		
726	Ohio Farmer's Ammoniated Phosphate and Potash.	Kirkland & Co., Girard, ...	6.00
	STANDARD GUANO CO., BALTIMORE, MD.		
1447	Standard Farmer's Favorite, ...	H. H. Loose, Menges Mills, ...	7.42
1448	Standard Truck and Vegetable Compound,	H. H. Loose, Menges Mills, ...	12.19
	SWACK'S FERTILIZER WORKS, DUBOIS, PA.		
1140	Swack's Corn Special Fertilizer, ...	T. P. Smith, Falls Creek, ...	8.05
1133	Swack's Special Potato Fertilizer, ...	Swack's Fert. Wks., DuBois, ...	8.65
	SWIFT & CO., BALTIMORE, MD.		
290	†Swift's Pure Corn and Wheat Grower, ..	Athens Milling & Produce Co., Athens.	8.19
698			
702	Swift's Pure Diamond A., ...	Louis Walker, Shanksville, ...	7.07
453	†Swift's Pure Diamond C. Fertilizer, ...	Louis Walker, Shanksville, ...	8.83
367		W. P. Rouser & Son, North East,	
1070		Milhous Bros., Mendenhall, ...	
		R. G. Stewart, Indiana, ...	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.			Total.				Total.					Total.			
Found.	Guaranteed.	Insoluble.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Water soluble.	Available.	Inactive insoluble.	Found.	Guaranteed.		
8.35	8.00	1.08	9.43	8.50	2.90	.....	2.90	2.00	.62	.85	‡.13	.98	.82	20.79	21.00 20.00 .....
7.73	7.00	.94	8.67	8.00	1.86	.....	1.86	1.00	.43	.76	‡.20	.96	.82	18.82	19.50
8.03	8.00	1.30	9.33	9.00	4.64	.....	4.64	4.00	1.45	1.66	§.15	1.81	1.65	25.90	26.50
8.95	8.00	1.38	10.33	9.00	3.97	.....	3.97	4.00	.37	.54	§.16	*.70	.82	21.19	23.00
8.23	8.00	1.17	9.40	9.00	2.77	.....	2.77	2.00	1.22	1.52	§.29	1.81	1.65	24.21	21.50
8.75	8.00	1.19	9.94	9.00	6.61	.....	6.61	6.00	1.89	2.24	§.30	2.54	2.47	31.85	32.00
7.82	8.00	1.32	9.14	.....	3.36	.....	3.36	2.00	.36	.50	§.18	.68	.41	19.44	15.00 17.00
8.05	8.00	.61	8.66	.....	10.68	.....	10.68	10.00	2.89	3.43	§.39	3.82	3.30	40.50	32.50
8.56	8.00	1.26	9.82	.....	10.21	.....	10.21	10.00	1.13	1.57	§.19	1.76	1.65	31.50	27.00 24.50 26.84
7.99	8.00	1.21	9.20	.....	5.93	.....	5.93	5.00	.81	1.40	§.59	1.99	1.65	27.97	21.50 25.00
9.03	8.00	1.12	10.15	.....	6.75	.....	6.75	5.00	.60	1.28	§.67	1.95	1.65	29.53	26.00
8.56	7.00	1.10	9.66	.....	7.57	.....	7.57	7.00	1.91	3.04	‡.33	3.37	3.30	36.18	32.00 33.00
9.26	8.00	1.33	10.59	.....	3.63	.....	3.63	3.00	.39	1.15	§.61	1.76	1.65	25.97	21.00 23.00
8.33	8.00	.99	9.32	.....	7.51	.....	*7.51	8.00	.64	1.45	‡.36	1.81	1.65	28.76	25.00
10.10	7.00	1.85	11.95	10.00	2.53	.....	2.53	1.50	.67	1.11	§.33	1.44	1.23	24.66	25.00
9.15	8.00	2.55	11.70	10.00	1.33	4.59	5.92	5.00	1.30	1.64	§.29	1.93	1.65	30.62	23.00 25.00
10.30	8.00	3.00	13.30	11.00	2.53	.....	2.53	2.00	.76	1.23	‡.22	1.45	.82	25.41	19.00
9.32	6.00	1.26	10.58	8.00	7.20	1.82	*9.02	10.00	2.85	3.23	§.34	3.57	3.30	39.80	34.00 30.50
9.77	8.00	1.73	11.50	10.00	5.33	4.61	9.94	10.00	1.39	1.85	§.39	2.24	1.65	36.10	28.00 29.00 25.50
10.38	9.00	3.16	13.54	12.00	4.55	.....	4.55	4.50	1.82	2.54	§.46	3.00	2.88	34.57	28.00 32.00 29.00
9.35	8.00	2.44	11 79	11.00	5.33	2.03	7.36	7.00	2.03	2.78	‡.43	3.21	2.88	37.26	33.00
10.02	6.00	1.68	11.70	9.00	2.08	.....	2.08	1.25	.63	1.29	‡.40	1.69	1.03	25.18	23.00
8.07	8.00	.60	8.67	.....	4.76	.....	4.76	4.00	.56	.74	§.13	.87	.80	21.33	22.00
8.13	8.00	.79	8.92	8.50	3.10	.....	3.10	3.00	.60	.74	§.17	.91	.41	20.13	17.00
6.66	6.00	.84	7.50	6.30	4.67	.57	5.24	5.00	3.31	3.64	§.35	3.99	4.10	35.01	40.00
10.25	9.00	2.05	12.30	10.00	4.27	2.96	7.23	7.00	32	.71	§.46	1.17	.85	28.75	17.50
8.10	8.00	1.66	9.76	9.00	6.53	5.20	11.73	10.00	.53	1.06	§.66	1.72	1.65	33.74	20.28
*7.61	8.00	.46	8.07	.....	3.93	.....	3.93	4.00	.41	.71	§.36	1.07	.82	20.95	24.00 20.00
*7.26	8.00	.52	7.78	.....	3.59	.....	3.59	3.00	1.43	1.98	§.68	2.66	2.47	27.60	28.00
7.99	8.00	.98	8.97	.....	4.45	.....	4.45	4.00	.81	1.13	¶.52	1.65	1.65	24.81	24.00 22.00 25.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	SWIFT & CO., Continued.		
454	†Swift's Pure Diamoud E. Fertilizer, ...	W. P. Rouser & Son, North East,	7.24
701		Louis Walker, Shanksville, ...	
455	Swift's Pure Dissolved Animal Bone and Potash.	W. R. Rouser & Son, North East,	2.62
1514	†Swift's Pure Early Potato and Vegetable Grower.	H. B. Low & Son, Orangeville, ..	5.28
1162		B. F. Sheasley, Penbrook, R. 2,..	
1913		Thomas Haines & Co., Malvern, ..	
567	Swift's Pure Golden Grain Grower, ...	Fred. Pfeifley, Lynport, ...	6.83
368	†Swift's Pure Grain Fertilizer, ...	Milhouse, Mendenhall, ...	7.52
289		Athens Milling & Produce Co., Athens.	
448		B. S. Talmage, McKean, ...	
568	†Swift's Pure Potato, Celery and Onion,	Fred. Pfeifley, Lynport, ...	6.71
358		W. H. Walker & Co., Kennett Sq.,	
704		Louis Walker, Shankville, ...	
691	Swift's Pure Prolific, ...	Humbert & Krug, Littlestown, ..	6.64
946	†Swift's Pure Red Steer, ...	Wyalusing Hay Co., Wyalusing, ..	7.88
699		Louis Walker, Shanksville, ...	
1158		B. F. Sheesley, Penbrook, R. 2,..	
1594	Swift's Pure Special Formula for Tobacco,	L. M. Smith, Tioga, ...	3.69
450	†Swift's Pure Super Phosphate, ...	B. S. Tallmage, McKean, ...	8.49
1149		Jas. McCullogh, Jr., Kittanning, ..	
947	†Swift's Pure Truck Grower, ...	Wyalusing Hay Co., Wyalusing, ..	7.77
447		B. S. Tallmage, McKean, ...	
1047		H. P. Hocher, Wrightsville, ...	
	J. M. TEMPLIN, HONEYBROOK, PA.		
2061	No. 4 Atlas Braud, ...	J. T. Shirk, ...	11.66
	I. P. THOMAS & SONS CO., PHILADELPHIA, PA.		
1031	†Normal Phosphate, ...	Morrow & Buxton, Valencia, ...	9.70
1428		Wm. J. Moyer, Greenville, ...	
1427	†Potato Fertilizer, ...	Wm. J. Moyer, Greenville, ...	10.34
623		John F. Grubb, Mifflinburg, ...	
1521	†Special High Grade Potato Manure, ...	C. R. Henrie & Son, Millville, ...	9.72
1351		Monroe A. Weik, Kleinfeltersville,	
1389		S. E. Risser, Palmyra, R. 2, ...	
579	†Special Potato Manure, ...	Titus Bachman, Hellertown, ...	7.39
463		B. J. Stultzfus, Elverson, R. D. 3,	
744	†Thomas' Scientific Tobacco Grower, ...	H. S. Amidon, Edinboro, ...	7.41
461		B. J. Stoltzfus, Elverson, R. D. 3,	
1349	†Thomas' Wheat and Corn Fertilizer, ...	Monroe Weik. Kleinfeltersville, ..	10.24
922		C. D. Garrison, Danville, R. D. 4,	
624		John F. Gruhb, Mifflinburg, ...	
1163	†Tip Top Super Phosphate, ...	John S. Engle, Hummelstown, ...	8.41
462		B. J. Stoltzfus, Elverson, R. D. 3,	
1565	Truckers High Grade Guano, ...	W. K. Beitenbender, Nescopeck, ..	6.67
1430	†Victor Potash Manure, ...	Wm. J. Moyer, Greenville, ...	8.34
1166		John S. Engle, Hummelstown, ..	
1348		Monroe A. Weik, Kleinfeltersville,	
	JAS. THOMAS, WILLIAMSPORT, PA.		
1898	Thomas' Klondyke Brand Phosphate, ...	James Thomas, Williamsport, ...	9.33
1897	Thomas' Special Compound for Wheat, Oats, Corn and Grass.	James Thomas, Williamsport, ...	10.87
	TRENTON BONE FERTILIZER CO., TRENTON, N. J.		
1930	Farmer's High Grade Potato Manure, ..	L. A. Howell, Morrisville, ...	7.48
1932	Trenton Keystone Potato Manure, ...	L. A. Howell, Morrisville, ...	7.13
	F. W. TUNNELL & CO., INC., PHILADELPHIA, PA.		
861	Empire Potato Manure, ...	John B. Satterthwaite, Woodburne,	8.59
1410	†No. 1 Special High Grade Potato Manure,	Geo. R. Watson, Embreeville, ...	8.74
1730		D. D. Wagner, Easton, ...	
381	Royal Fish Guano, ...	Geo. L. Fretz, Doylestown, ...	8.91
862	7% Guano, ...	John B. Satterthwaite, Woodburne,	8.71
380	Special High Grade Potato Manure, ...	Geo. L. Fretz, Doylestown, ...	7.47

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
7.99	8.00	1.38	9.37	.....	7.07	.....	7.07	7.00	1.73	2.37	§.78	3.15	3.29	34.34	32.00 34.75
13.54	13.00	5.02	18.56	18.00	3.64	.....	*3.64	4.00	.66	1.10	‡.29	1.39	1.23	30.51	32.00
6.26	6.00	.38	6.64	.....	9.16	.....	*9.16	10.00	2.11	2.39	§.34	*2.73	3.29	32.29	35.00 34.00 34.00
8.34	8.00	.47	8.81	.....	5.34	.....	5.34	5.00	.49	1.14	§.60	1.74	1.65	26.25	23.00
*7.49	8.00	.99	8.48	.....	2.44	.....	2.44	2.00	.41	.69	§.28	.97	.82	19.22	21.00 22.50 .....
5.50	5.00	.34	5.84	.....	9.11	.....	*9.11	10.00	.51	.73	§.24	.97	.82	23.25	21.00 24.00 25.00 23.50
*7.45	8.00	.93	8.38	.....	2.22	.....	2.22	2.00	.26	.35	¶.23	.58	.41	17.30	15.00
*7.75	8.00	.70	8.45	.....	1.96	.....	1.96	2.00	.57	1.11	§.63	1.74	1.65	22.50	25.50 22.40 22.00
*3.23	4.00	.54	3.77	.....	3.07	3.09	6.16	6.00	2.43	3.42	‡.58	*4.00	4.94	32.82	35.00
*7.10	8.00	2.55	9.65	.....	2.23	.....	2.23	2.00	.67	1.04	¶.61	1.65	1.65	22.56	24.00 24.00
8.04	8.00	.98	9.02	.....	4.43	.....	4.43	4.00	.51	.77	§.28	1.05	.82	22.12	24.00 22.00 18.50
10.42	10.00	1.05	11.47	11.00	4.44	.....	4.44	4.00	.76	1.04	§.40	*1.44	1.65	26.39	25.00
8.40	8.50	.47	*8.87	9.50	2.20	.....	2.20	1.50	.71	.92	§.28	1.20	1.00	20.77	22.50 20.00
8.89	9.00	.66	*9.55	10.00	7.04	.....	7.04	6.00	1.10	1.41	§.26	1.67	1.64	28.09	29.00 ..... 26.00
8.73	8.00	.87	9.60	9.00	9.78	.....	*9.78	10.00	1.98	2.73	‡.44	3.17	3.29	37.41	35.50 32.00
6.93	7.00	.22	*7.14	8.00	10.00	.....	10.00	10.00	1.39	1.58	§.23	1.81	1.64	29.40	28.00 27.00 32.00
*7.79	8.00	.79	*8.49	9.00	1.87	3.65	*5.52	6.00	2.00	2.39	‡.22	2.61	2.46	30.66	29.00 31.50
8.86	9.00	.65	*9.51	10.00	3.30	.....	3.30	3.00	.67	.85	§.19	1.04	.82	21.69	17.00 ..... 19.00
8.33	8.00	.48	8.81	9.00	4.72	.....	4.72	4.00	1.18	1.92	§.61	2.53	2.46	29.28	27.00 25.00
*6.50	7.00	.61	*7.11	8.00	6.93	.....	6.93	7.00	2.52	2.88	§.41	3.29	3.29	33.04	35.00
*7.18	8.00	1.42	*8.60	9.00	5.59	.....	5.59	5.00	.83	.99	¶.24	1.23	.82	23.49	20.00 23.50
9.48	9.00	1.08	10.56	10.00	3.05	.....	3.05	3.00	.54	.77	§.22	.99	.82	22.05	22.00
8.91	9.00	1.28	10.19	10.00	2.04	.....	2.04	2.00	.74	1.00	§.20	1.20	1.03	21.55	22.00
6.99	6.00	1.28	8.27	7.00	9.33	.76	10.09	10.00	2.40	2.97	§.41	3.38	3.28	37.97	33.00
8.84	8.00	1.36	10.20	9.00	9.47	.76	10.23	10.00	.82	1.31	§.46	1.77	1.64	32.07	30.00
6.68	6.00	.97	7.65	7.00	4.67	4.58	*9.25	10.00	2.42	3.08	§.64	3.72	3.30	38.55	34.00
*7.43	8.00	.75	*8.18	9.00	9.91	.....	9.91	10.00	.95	3.01	§.48	3.49	2.46	37.82	30.00 38.00
7.22	7.00	1.36	8.58	8.00	5.69	.....	5.69	3.00	1.03	1.42	¶.61	2.03	2.00	27.26	26.00
6.41	6.00	.82	7.23	7.00	4.53	2.98	7.51	7.00	3.85	4.76	§.73	*5.49	5.77	43.97	43.00
6.48	6.00	.98	7.46	7.00	11.19	.....	11.19	10.00	1.77	2.40	‡.30	2.70	2.46	34.56	32.00

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	F. W. PUNNELL & CO., Continued.		
1399	Sweet and White Potato Manure, ...	R. B. Jackson, Cochranville, ...	11.22
1412	Trucker's High Grade Fish Guano, ...	Geo. R. Watson, Embreeville, ...	12.36
863	2-8-10 Potato Manure, ...	John B. Satterthwaite, Woodburne,	8.46
	TUSCARORA FERTILIZER CO., BALTIMORE, MD.		
1861	Tuscarora York State Special, ...	H. T. McDowell, Howard, ...	9.11
	J. E. TYGERT CO., BY AM. AG. CHEM. CO., NEW YORK.		
1212	Early Truck Guano, ...	Geo. S. Miller, Mifflinville, ...	10.27
425	†Gold Edge Potato Guano, ...	Siegfried & Schwoyer, Kempton, ..	10.35
293		F. B. Kintner, Athens, ...	
594		Lovine Lerch, Bethlehem, R. D. 1,	
592	†Golden Harvest Phosphate, ...	F. B. Kintner, Athens, ...	11.31
1210		Geo. S. Miller, Mifflinville, ...	
417	Tygert's Potato Fertilizer, ...	Daniel Knittle, Kutztown, R. D. 4,	7.16
593	Tygert's Potato Special, ...	Dovine Lerch, Bethlehem, R. D. 1,	9.06
272	Ten Per Cent Grain Grower, ...	R. F. Brown, Easton, ...	9.95
1578	Ten Per Cent Sweet Potato Guano, ...	W. E. Stauffer, Ringtown, ...	9.15
418	†Victor Crop Grower, ...	Daniel Knittle, Kutztown, R. D. 4,	15.10
881		G. W. Faries & Co., Chester Hgts.,	
	UNION CHEMICAL WORKS, INC., NORTH WALES, PA.		
845	Grangers Favorite, ...	Union Chemical Wks., North Wales,	9.24
860	†Ideal Potato Manure, Planting Brand, ..	Union Chemical Wks., North Wales,	7.92
2065		Newhauser Bro., Bird-in-Hand, ..	
2064	Ideal Potato Manure, Top Dressing Brand,	Newhauser Bro., Bird-in-Hand, ...	9.38
563	†Potato and Celery Special, ...	A. J. Fiddler, See. Grange No. 1248, Rock.	8.10
843		Union Chemical Wks., North Wales,	
	U. S. FERTILIZER CO., BALTIMORE, MD.		
295	†Farm Bell Animal Ammoniated, ...	Farmers Supply Co., Milan, ...	9.69
627		J. H. Stickler, Mifflinburg, ...	
913	Farm Bell Farmer's Choice, ...	N. C. Creasy, Catawissa, ...	9.25
490	†Farm Bell Fruit and Potato Guano, ...	Cook Grain, Feed and Supply Co., Dillsburg.	9.58
297		Farmers Supply Co., Milan, ...	
626		J. H. Stickler, Mifflinburg, ...	
1817	Farm Bell Harvest Moon, ...	R. D. Foreman, Centre Hall, ...	8.37
489	†Farm Bell Pennant Winner, ...	Cook Grain, Feed and Supply Co., Dillsburg.	9.44
296		Farmers Supply Co., Milan, ...	
669		N. C. Creasy, Catawissa, ...	
4	Farm Bell Potato Queen, ...	The J. N. Getz Co., Lock Haven, ..	5.57
3	Farm Bell Potato and Tobacco Guano, ...	The J. N. Getz Co., Lock Haven, ..	7.32
754	Farm Bell Trucker's Ideal, ...	Chas. T. Wills & Co., Parnassus,..	9.59
625	†Farm Bell Wheat, Oats and Corn Special,	J. H. Stickler, Mifflinburg, ...	9.42
492		Cook Grain, Feed and Supply Co., Dillsburg.	
1112		J. J. Shoemaker, Walnutport, ...	
1343	Farm Bell Wheat and Potash Mixture,....	R. D. Foreman, Centre Hall, ...	7.09
	VIRGINIA CAROLINA CHEMICAL CO., RICHMOND, VA.		
905	V. C. C. Co.'s Prize Potato Manure, ...	E. B. Mauer, Boswell, ...	7.93
	W. E. WHANN & CO., BY AM. AG. CHEM. CO., NEW YORK.		
478	†Whann's Chester Valley Economist Fertilizer.	Geo. Herbster, Bremmingsville, ..	9.66
1765		A. L. Miller, York, R. D. 6, ...	
427	Whann's Chester Valley 15% Guano, ...	H. F. Kistler, Wanamaker, ...	8.69

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
8.08	7.00	.83	8.91	8.00	5.87	2.57	8.44	8.00	.55	1.05	§.44	1.49	1.64	28.63	30.00
5.57	5.00	1.34	6.91	6.00	3.90	.....	3.90	1.75	3.44	3.78	‡.02	*3.80	4.12	31.78	28.00
*7.16	8.00	2.35	9.51	9.00	5.33	2.51	*7.84	10.00	.78	1.28	§.45	1.73	1.64	28.94	30.00
8.26	8.00	.91	9.17	8.50	4.45	.....	4.45	4.00	.71	.83	§.12	.95	.82	21.85	20.00
6.50	6.00	1.66	8.16	7.00	2.46	.....	2.46	2.00	2.60	2.98	§.47	3.45	3.29	29.91	28.00
7.87	7.00	1.12	8.99	8.00	5.75	.....	5.75	5.00	1.05	1.53	§.33	1.86	1.65	26.95	25.00 26.00 25.00
8.80	8.00	1.31	10.11	9.00	1.96	.....	1.96	2.00	.32	.47	§.13	.60	.41	15.81	19.00 18.50
6.85	6.00	1.17	8.02	7.00	6.93	.....	6.93	5.00	.61	.88	§.17	1.05	.82	23.40	20.00
7.90	7.00	1.53	9.43	8.00	9.32	.....	*9.32	10.00	2.16	2.51	‡.19	2.70	2.47	34.45	30.00
7.02	7.00	1.01	8.03	8.00	10.34	.....	10.34	10.00	.76	1.24	‡.32	1.56	1.23	29.07	26.25
7.58	7.00	1.02	8.60	8.00	9.20	.88	10.08	10.00	.72	1.06	§.34	1.40	1.23	28.93	26.00
8.39	8.00	1.44	9.83	9.00	3.93	.....	3.93	4.00	.66	.82	§.16	.98	.82	22.02	21.00 22.00
7.93	8.00	.34	8.27	.....	8.38	.....	8.38	8.00	1.01	1.26	§.34	1.60	1.64	28.04	22.50
7.81	8.00	.38	8.19	.....	8.26	1.58	9.84	10.00	2.31	2.94	¶.43	3.37	3.28	37.66	33.00 38.00
*7.80	8.00	.40	8.20	.....	1.60	8.93	10.53	10.00	3.27	3.57	§.44	4.01	3.28	43.06	38.00
6.89	7.00	.15	7.04	.....	9.65	.....	*9.65	10.00	.89	1.21	§.37	1.58	1.64	28.08	25.00 23.00
8.63	8.00	.61	9.24	9.00	5.07	.....	5.07	5.00	.88	1.31	§.40	1.71	1.65	26.11	23.40 .....
9.20	8.00	84	10.04	9.00	2.88	.....	2.88	2.00	.59	1.05	§.42	1.47	1.03	23.54	20.00
9.08	8.00	.51	9.59	9.00	11.18	.....	11.18	10.00	.80	1.21	§.43	1.64	1.65	32.20	25.63 26.00 25.00
10.04	9.00	.98	11.02	10.00	4.03	.....	4.03	3.00	.30	.51	§.16	*.67	.82	18.84	20.25
8.24	8.00	1.19	9.43	9.00	4.88	.....	4.88	4.00	.48	.72	¶.41	1.13	.82	23.29	18.30 18.53 19.00
5.22	5.00	.79	6.01	6.00	9.93	.....	9.93	10.00	1.23	1.88	‡.22	2.10	1.65	29.22	28.00
7.71	7.00	1.21	8.92	8.00	10.61	.....	10.61	10.00	1.64	2.47	‡.30	2.77	2.46	35.55	34.00
8.54	7.00	.85	9.39	8.00	9.59	.....	9.59	8.00	2.50	3.19	§.67	3.86	4.01	40.31	24.00
8.62	8.00	.88	9.50	9.00	7.26	.....	7.26	6.00	.46	.71	§.30	1.01	.82	25.12	19.00 19.50 18.96
9.83	9.00	.87	10.70	10.00	6.35	.....	*6.35	7.00	.37	.53	§.23	.76	.82	24.37	23.25
6.21	6.00	1.15	7.36	7.00	3.73	2.38	6.11	6.00	1.05	1.16	§.59	1.75	1.65	25.69	27.00
8.59	8.00	1.02	9.61	9.00	2.33	.....	2.33	2.00	.56	.74	§.18	.92	.41	20.01	..... 17.00
8.65	7.00	1.17	9.82	8.00	9.37	.....	*9.37	15.00	.71	.99	‡.14	1.13	.82	27.99	29.00

† § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
†Composite sample.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	THE ROBT. A. WOOLRIDGE CO., BALTIMORE, MD.		
475	Woolridge's Champion Stag Phosphate, ..	A. C. Krammer, Mohntou, R. D. 1,	11.10
422	Woolridge's Chieftain Phosphate, ...	C. D. Christ, Kutztown, R. D. 4,	8.11
477	Woolridge's Farmer's Favorite Cereal Compound.	A. C. Krammer, Mohnton, R. D. 1,	7.71
546	†Woolridge's Fernwood Grange Mixture,..	W. R. Taylor & E. D. Weaver, New Paris.	10.52
343		F. G.Evens, Kelton, ...	
642		C. C. Catherman, Hartleton, ...	
476	Woolridge's High Grade Ammoniated Potash Fertilizer.	A. C. Krammer, Mohnton, R. D. 1,	7.87
1005	Woolridge's Special Potato and Tobacco Fertilizer.	Sol. DeTurk, Greissenerville, ...	10.38
341	†Woolridge's Triumph Brand Phosphate,..	F. G. Evens, Kelton, ...	9.69
174		S. B. Jackson, Carlisle, ...	
641		C. C. Catherman, Hartleton, ...	
	THE WOOLRIDGE FERTILIZER CO., BALTIMORE, MD.		
1486	F. F. V. Flesh and Fish Vegetator, ...	E. O. Hacker, Lincoln, ...	7.31
1487	Omega, ...	E. O. Hacker, Lincoln, ...	7.96
1485	†Tiger Phosphate, ...	E. O. Hacker, Lincoln, ...	7.71
175		S. B. Jackson, Carlisle, ...	
1525		Grant Johnson, Millville, ...	
	YORK CHEMICAL WORKS, YORK, PA.		
167	†Dempwolf's Harvest Queen, ...	Wm. Cooper, Athens, ...	8.26
487		J. D. Gochenour, Dillsburg, ...	
168	†Dempwolf's Potato Manure, ...	Wm. Cooper, Athens, ...	7.19
205		A. A. Bowman, Mechanicsburg, ...	
1449	†Dempwolf's Potato and Truck Special,..	Frank Hokek, Spring Grove, R. 1,	6.58
1614		W. B. Sigel, Port Matilda, ...	
2037	Dempwolf's Special Tobacco, ...	W. K. Bender, Strasburg, ...	6.10
1167	Harvest King, ...	Hershey Store Co., Hershey, ...	5.23
1323	†Golden Sheaf, ...	Steininger Bros., Middleburg, ...	8.10
549		Harry Burns, Spring Hope, ...	
1560		Lehman Seibert, Berwick, ...	
255	†1-8-4, ...	Peter S. Lehman, Chambersburg, ..	8.38
631		Peter Reuner & Son, Mifflinburg, ..	
792	†Standard Potash, ...	H. M. Holtzman, Berrysburg, ...	7.85
707		W. F. Gnagy, Berlin, ...	
810		L. T. Lebo, Halifax, ...	
1043	Strayer's Special Wheat and Corn, ...	Strayer Bros. & Co., York.	9.28

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Nitrogen in 100 Pounds.					Computed commercial value of 2,000 lbs. at Dept. rating.	Selling price of 2,000 lbs. at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
9.72	9.00	1.15	10.87	10.00	2.37	.....	2.37	2.00	.58	.76	§.14	.90	.82	21.21	20.00
8.65	8.00	1.52	10.17	9.00	2.43	.....	2.43	2.00	1.01	1.54	‡.26	1.80	1.65	24.50	21.00
7.08	7.00	.93	8.01	8.00	2.50	.....	2.50	2.00	.43	.54	§.10	.64	.41	17.44	17.50
8.32	8.00	.99	9.31	9.00	7.84	.....	7.84	8.00	1.18	1.45	§.19	1.64	1.65	28.41	26.00 26.00 26.00
8.71	8.00	1.02	9.73	9.00	10.41	.....	10.41	10.00	1.19	1.57	§.27	1.84	1.65	32.20	29.00
9.95	9.00	1.33	11.28	10.00	4.93	.65	5.58	5.00	.96	1.26	¶.25	1.51	1.65	27.57	24.00
*7.56	8.00	1.62	9.18	9.00	4.21	.....	4.21	4.00	.84	1.03	¶.27	1.30	1.23	22.88	24.00 22.50 21.90
6.91	7.00	.64	7.55	7.55	6.93	.82	7.75	7.00	1.80	2.04	¶.29	2.33	2.47	30.10	28.00
*7.70	8.00	.97	8.67	8.50	7.47	2.38	9.85	10.00	.76	.89	¶.25	1.14	.82	27.99	25.00
8.19	8.00	.61	8.80	8.50	4.72	.....	4.72	4.50	.85	1.02	¶.23	1.25	1.03	23.26	22.00 22.50 21.00
8.37	8.00	.68	9.05	8.50	2.64	.....	2.64	2.00	.48	.70	§.29	.99	.82	20.36	20.20 18.00
6.17	6.00	.97	7.14	6.50	7.35	.....	7.35	7.00	.48	.64	¶.31	.95	.82	22.57	23.60
8.35	8.00	.64	8.99	9.00	3.47	3.40	6.87	7.00	1.99	2.15	¶.33	2.48	2.47	32.02	24.00 ....
5.92	5.00	.59	6.51	5.50	.80	9.24	10.04	10.00	2.56	3.30	‡.41	3.71	3.29	39.45	38.00
8.20	8.00	.83	9.03	9.00	5.65	.....	5.65	5.00	1.18	1.41	§.31	1.72	.82	26.35	22.00
8.46	8.00	.74	9.20	8.50	2.38	.....	2.38	2.00	.66	.18	¶.36	.54	.29	15.57	15.50 16.50 .....
8.12	8.00	.80	8.92	8.50	4.86	.....	4.86	4.00	.57	.74	§.24	.98	.82	22.27	17.50 ....
8.41	8.00	.77	9.18	8.50	4.64	.....	4.64	4.00	.50	.71	§.26	.97	.82	20.97	19.00 20.00
8.44	8.00	1.38	9.82	8.50	2.78	.....	2.78	2.00	.35	.53	¶.39	.92	.82	20.46	17.50

‡ § ¶ Characters indicating the proportion of insoluble nitrogen that is inactive: ‡=two-fifths or less; §=two-fifths to three-fifths; ¶=three-fifths or more.
*Constituent falls below guaranty.

ROCK AND POTASH

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK.		
1706	Fruit Tree Invigorator,	S. M. Shuler & Son, Liverpool,	9.35
24	Gem Alkaline Phosphate,	Eli Yost, McEwensville,	7.84
38		A. B. Moek, Martinsburg,	
821		H. F. Gump & Son, Everett,	
331	High Grade Potash Mixture,	J. A. Gass, Sunbury, R. No. 3,	10.35
391		A. A. Schwalm, Secy., Hegins,	
1477		Maurice Reeser, West Leesport,	
759		Thos. S. Smith & Son, New Bethlehem.	
1754	Bradley's Alkaline Phosphate and Potash,	Geo. R. Andrews, Enon Valley,	8.74
1954		F. F. Greenwalt, West Newton,	
280	Bradley's Big Crop,	Eli Reiner, Flicksville,	8.89
1024		Jno. P. Jones Hrw. Co., Summerville.	
1755	Bradley's Circle Phosphate,	Geo. R. Andrews, Enon Valley,	10.76
284		Eli Reiner, Flicksville,	
1752		Geo. R. Andrews, Enon Valley,	
655	Crocker's Dissolved Phosphate and Potash,	Gousar Bros., Snydertown,	8.62
436	Crocker's Globe Phosphate,	Union Coal and Supply Co., Union City.	10.01
767		Detz & Mooney Hdw. Co., Clarion,	
1420	Crocker's Perfect Crop,	Linesville Coal, Lime and Cement Co., Linesville.	12.35
986	Great Eastern Soluble Acid Phosphate and Potash.	A. L. Stetzler, Shoemakersville,	10.85
95	Michigan Carbon Works Red Line Phosphate with Potash.	Davis & Hyde, Spartansburg,	10.85
96	Michigan Carbon Works Wheat and Grass Fertilizer.	Davis & Hyde, Spartansburg,	5.13
1265	Milsom's Crown Phosphate,	Imbrie Bros., Petrolia,	12.10
1748		Graham Bros., Darlington,	
1731	Milsom's Eclipse Phosphate,	Frank C. Williams, Easton,	9.62
2004		N. H. Conwell, East Millshoro,	
734	Milsom's Star Crop,	W. B. Denny, Meadville,	8.48
1002		H. H. Weller, Bechtelsville, R. No. 2	
189	Moro-Phillips Alkaline Phosphate,	Nickles & Stewart, Shippensburg,	8.87
329		J. E. Boust, Shamokin Dam,	
711	North Western Choice Crop,	Jeff Altfather, Berlin,	8.41
1217		H. E. Rittenhouse, Bloomsburg, R. No. 5.	
1720	North Western Electric Phosphate,	Kemmer Hdw. Co., Lehighton,	10.85
1721		Kemmer Hdw. Co., Lehighton,	
190	North Western High Grade Alkaline Phosphate.	Nickels & Stewart, Shippensburg,	9.64
907		Newton Gouder, Boswell,	
908	North Western Horse Shoe Brand,	Newton Gouder, Boswell,	10.09
1123		Chas. Kern, Little Gap,	
1216		H. E. Rittenhouse, Bloomsburg, R. No. 5.	
1846	Reads Champion Phosphate,	Wm. Stover, Millheim,	8.48
1696	Reese's High Grade Potash Mixture,	C. L. Martin, Loysville,	9.60
424	†Susquehanna High Grade Phosphate and Potash.	Wm. Bennioff, Krumsville,	10.27
1704		Geo. E. Beaver, Millerstown,	
162	Williams & Clark's Banner Crop,	C. E. Drake, Athens,	9.06
325	†Williams & Clark's Triumph Phosphate,	I. M. Sheetz, Sunbury, R. D. 3,	9.80
582		Stewart Weaver, Easton,	
1145		McConnell and Waterson, Kittanning	
61	†Zell's Electric Phosphate,	W. V. Shirk, Oakland Mills,	9.22
1684		B. F. Horting, Newport,	
	AMERICAN FERTILIZING CO., BALTIMORE, MD.		
49	†Dissolved Phosphate and Potash,	John H. Neideigh, State College,	10.03
2016		Jones Eavenson, Christiana,	
715	American Formula Wheat and Corn,	Milton Deal, Saleshury,	12.52
898	American Special Potash Mixture,	J. G. Ernest, Somerset,	8.63

†Composite sample.

FERTILIZERS.

Acid and Potash.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
Available.		Insoluble.	Total.				Total.			
Found.	Guaranteed.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.		
10.41	10.00	.68	11.09	11.00	6.92	.....	*6.92	8.00	18.76	19.50
6.94	6.00	.45	7.39	7.00	3.32	.....	3.32	3.00	12.74	13.50 14.00 15.00
10.67	10.00	.71	11.38	11.00	10.02	.....	10.02	10.00	22.00	22.00 19.00 22.00 18.00
*9.75	10.00	1.03	*10.78	11.00	2.15	.....	2.15	2.00	13.87	16.15 .....
8.74	8.00	.69	9.43	9.00	4.87	.....	4.87	5.00	15.61	14.00 20.00
10.30	10.00	1.02	11.32	11.00	8.25	.....	8.25	8.00	20.10	19.00 18.50 21.85
10.41	10.00	.85	11.26	11.00	2.23	.....	2.23	2.00	14.36	15.00
10.02	10.00	.57	*10.59	11.00	8.16	.....	8.16	8.00	19.64	21.00 22.00
8.06	8.00	.54	*8.60	9.00	4.67	.....	*4.67	5.00	14.86	20.00
10.16	10.00	1.21	11.37	11.00	2.76	.....	2.76	2.00	14.68	12.00
10.10	10.00	.47	*10.57	11.00	2.43	.....	2.43	2.00	14.19	16.00
8.31	8.00	.74	9.05	9.00	5.08	.....	5.08	5.00	15.55	18.00
10.24	10.00	.85	11.09	11.00	2.10	.....	2.10	2.00	14.11	20.00 17.40
10.13	10.00	.83	10.96	11.00	8.00	.....	8.00	8.00	19.68	20.00 22.00
8.35	8.00	.51	8.86	9.00	4.27	.....	*4.27	5.00	14.67	18.00 17.00
10.31	10.00	.50	10.81	11.00	2.59	.....	2.59	2.00	14.49	14.00 12.00
8.20	8.00	.70	8.90	9.00	5.12	.....	5.12	5.00	15.45	17.50 14.50 28.00
10.22	10.00	.96	11.18	11.00	2.62	.....	2.62	2.00	14.62	13.55
10.12	10.00	.48	*10.60	11.00	10.25	.....	10.25	8.00	21.69	19.00 20.00
*10.51	12.00	1.12	*11.63	13.00	5.93	.....	5.93	5.00	18.10	17.00 22.00 18.50
11.04	10.00	.79	11.83	11.00	2.31	.....	2.31	2.00	14.85	12.50
12.50	12.00	.38	12.88	13.00	5.41	.....	5.41	5.00	18.73	20.00
12.31	12.00	.64	12.95	13.00	5.07	.....	5.07	5.00	18.34	17.50 17.50
8.22	8.00	1.40	9.62	9.00	4.42	.....	*4.42	5.00	15.03	15.00
10.14	10.00	.70	10.84	11.00	2.56	.....	2.56	2.00	14.41	14.00 18.00 18.00
10.26	10.00	.55	10.81	11.00	2.56	.....	2.56	2.00	14.43	14.00 12.40
10.04	10.00	1.46	11.50	11.00	2.41	.....	2.41	2.00	14.47	13.50 13.00
10.11	10.00	1.20	11.31	11.00	5.74	.....	5.74	5.00	14.02	16.00
8.07	8.00	1.17	9.24	9.00	4.10	.....	4.10	4.00	14.59	15.00

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	AMERICAN FERTILIZING CO.—Continued.		
348	†American Special Super-Phosphate, ...	S. K. Chambers & Bro., Elkview,	7.03
2081		M. F. Bailey, Wellsboro, ...	
	ARMOUR'S FERTILIZER WORKS, BALTIMORE, MD.		
152	†Banner Brand, ...	Lott Shoemaker, Nichols, N. Y.,	
1132		Frank Douglass, Indiana, ...	9.49
1620		D. Ross Gregory, Petersburg R. D.	
1078	†Potash Mixture, ...	Frank Douglass, Indiana, ...	7.56
1192		Louck's Hdw. Co., Scottsdale, ...	
185	†Phosphate and Potash, No. 1, ...	Nickles Stewart, Shippensburg, ...	
1079		Frank Douglass, Indiana, ...	9.05
1779		W. S. Henderson, Alexandria, ...	
33	†Sure Crop, ...	C. A. Boyer, Roaring Springs, ..	7.52
184		Nickles Stewart, Shippensburg, ...	
	ATLANTIC FERTILIZER CO., BALTIMORE, MD.		
1111	Atlantic Farmer's Alkaline Mixture 10 & 2,...	Josiah Albright, Martin's Creek, R. No. 1.	9.46
806	Atlantic High Grade Potash Compound, ...	J. C. Lebo, Millersburg, ...	7.14
	BAUGH & SONS CO., PHILADELPHIA, PA.		
92	Baugh's Soluble Alkaline Superphosphate, .	J. H. Rickenbroke, Hydetown, ...	
194		Allison & Foglesonger, Shippensburg,	9.40
200		S. E. Shenk, Newville, ...	
247	Baugh's Special Alkaline Superphosphate 8 & 5.	D. W. Faust & Sons, Chambersburg,	7.07
17	Baugh's 10 & 4 Phosphate and Potash Mixture.	Herman Keebler, Montoursville, ...	
196		Allison & Foglesonger, Shippensburg	8.33
245		D. W. Faust & Sons, Chambersburg,	
	S. B. BRODBECK, BRODBECK, PA.		
1772	Brodbeck's Alkaline, ...	S. B. Brodbeck, Brodbeck, ...	8.93
	BOWKER FERTILIZER CO., NEW YORK.		
88	Bowker's Empire State Phosphate and Potash.	Kernochan & Co., Titusville, ...	8.00
115		A. C. McClure, Burgettstown, ...	
126	Bowker's Golden Harvest Fertilizer, ...	Edward Williamson, Johnstown, ..	
645		W. H. Weidensand, Millmont, ...	10.09
929		M. P. Whitenight, Bloomsburg, ..	
	CENTRAL CHEMICAL CO., THOMAS FERTZ' WORKS, HAGERSTOWN, MD.		
187	C. C. C. Pioneer Majestic, ...	Nickles Stewart, Shippenshurg, ...	
604		J. Louderslager, Thompsontown, ..	8.22
606		Reed and Erdman, Paxinos, ...	
663	C. C. C. Potato Grower, ...	Reed and Erdman, Paxinos, ...	8.22
536	C. C. C. Potash Special, ...	C. W. Stuckey, Wolfsburg, ...	
606		D. Baaks Basleon, Mifflintown, ...	9.56
1723		J. J. Gerhard, Weatherly, ...	
	COE MORTIMER CO., NEW YORK.		
158	E. Frank Coe's Golden Harvest, ...	Bert Eastbrook, Rummerfield, ...	
533		W. E. Heltzel, Cessna, ...	9.82
1074		Thomas K. George, Homer City, ...	
	COLUMBIA GUANO CO., BALTIMORE, MD.		
2073	Columbia Premium Phosphate and Potash, ...	A. H. Doud, Covington, ...	10.04
597	Columbia Prize Crop Phosphate, ...	Thomas Kunkle, Easton, R. D. 4,	7.91
927		M. P. Whitenight, Bloomsburg, ...	
	JOSIAH COPE & CO., BALTIMORE, MD.		
524	High Grade Phosphate and Potash, ...	J. A. Beaver, Hastings, R. D. 1,.	
1409		Geo. R. Watson, Emhreeville, ...	10.35
1476		W. H. Dreibelhis, Shoemakersville,	
545	Soluble Phosphate and Potash, ...	R. C. Smith, Point, ...	9.11
2022		Jones Everson, Christiana, ...	

†Composite sample.

FERTILIZER—Continued.

Phosphoric Acide in 100 Pounds.					Potash in 100 Pounds.				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
Available.			Total.				Total.			
Found.	Guaranteed.	Insoluble.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.		
6.31	6.00	.93	7.24	7.00	3.74	.....	3.74	3.00	12.88	16.00 20.00
10.32	10.00	.48	10.80	10.50	8.41	.....	8.41	8.00	20.06	20.00 22.00 17.00
6.06	6.00	.51	6.57	6.50	3.17	.....	3.17	3.00	11.96	15.00 17.00
10.27	10.00	.50	10.77	10.50	2.16	.....	2.16	2.00	14.02	14.00 18.00 14.00
7.89	8.00	.32	*8.21	8.50	5.25	.....	5.25	5.00	15.24	16.50 15.00
10.61	10.00	.99	11.60	.....	2.43	.....	2.43	2.00	14.74	16.00
12.60	12.00	1.03	13.63	.....	5.33	.....	5.33	5.00	18.97	17.00
10.20	10.00	1.21	11.41	.....	3.41	.....	3.41	2.00	15.44	..... 13.00 13.00
8.37	8.00	.79	9.16	.....	5.10	.....	5.10	5.00	15.60	13.50
9.98	10.00	1.05	11.03	.....	4.84	.....	4.84	4.00	16.64	15.00 15.00 14.00
7.99	8.00	1.21	9.20	9.00	2.19	.....	2.19	2.00	12.70	12.00
8.24	8.00	.50	*8.74	9.00	3.97	.....	3.97	3.00	14.31	20.00 19.00
11.92	12.00	.75	*12.67	13.00	5.40	.....	5.40	5.00	18.43	17.50 19.00 17.25
7.82	8.00	.47	8.29	.....	5.09	.....	5.09	5.00	15.08	15.00 15.00 16.00
10.07	10.00	.32	10.39	.....	10.04	.....	10.04	10.00	21.43	24.00
11.95	12.00	.83	12.78	.....	5.41	.....	5.41	5.00	18.50	17.00 17.50 16.75
10.12	10.00	.88	11.00	11.00	8.44	.....	8.44	8.00	20.17	16.90 22.00 21.50
10.31	10.00	.55	10.86	10.50	8.06	.....	8.06	8.00	19.75	18.00
8.92	8.00	.42	9.34	8.50	5.59	.....	5.59	5.00	16.36	..... 15.00
10.43	10.00	.74	11.17	11.00	6.13	.....	6.13	5.00	18.08	21.00 17.00 15.00
9.91	10.00	1.08	10.99	11.00	2.63	.....	2.63	2.00	14.47	15.00 14.00

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	JOSIAH COPE & CO.—Continued.		
1239	Universal Mixture for all Crops,	Samuel Gesham, Mt. Union,	8.49
1414		F. E. Bailey, Northbrook,	
	EUREKA CHEMICAL CO., BALTIMORE, MD.		
632	Eureka No. 2 Alkaline,	Geo. Zimmerman, Cowan,	9.89
	FARMER'S FERTILIZER WORKS, ELIZABETHTOWN, PA.		
1713	Farmers' Economy,	I. B. Secrist, Millerstown,	9.78
	W. S. FARMER & CO., BALTIMORE, MD.		
1550	W. S. Farmer & Co., Corn, Oats and Buckwheat.	A. W. Trout, Stewartstown,	8.57
	GRIFFITH & BOYD CO., BALTIMORE, MD.		
1458	Monarch Brand,	E. H. Sterner, Codorus,	9.30
1711		Kipp and Moore, Millerstown,	
880	Special Grain Grower,	G. W. Faries & Co., Chester Heights	11.07
1263		Harmony Cereal Mills, Harmony,	
1459		E. H. Sterner, Codorus,	
40	XX Potash Manure,	A. B. Mock, Martinsburg,	10.78
879		Faries & Co., Chester Heights,	
1282		Adam King, Allenwood,	
	S. M. HESS & BRO., PHILADELPHIA, PA.		
58	†Farmers' Grain and Clover Grower,	Wm. Ruffenberger, Mifflintown,	8.01
1660		J. A. and H. J. Hoover, Patton, R. D. 1.	
59	†Soluble Phosphate and Potash,	Wm. Ruffenberger, Mifflintown,	9.96
223		James Westley, Mohnton, R. D. 1,	
441	†Standard Alkaline,	A. L. Veit, McKean,	9.33
640		T. E. Spangler, Mifflinburg,	
773		J. P. Myers, Longsdorf,	
820		Frank Reighard, Bedford No. 1,	
	M. P. HUBBARD & CO., INC., BALTIMORE, MD.		
395	†Hubbard's B. G. Compound,	N. D. Yoder, Hegins,	9.42
1530		I. G. Washburn, Millville,	
1286	Hubbard's Soluble Phosphate and Potash,	John Painter, Lewisburg,	8.96
1283	Hubbard's Special Alkaline Mixture,	John Painter, Lewisburg,	6.71
1285	Hubbard's XXXX Rock and Potash Mixture,	John Painter, Lewisburg,	10.43
	HUBBARD'S FERTILIZER CO., BALTIMORE, MD.		
27	Hubbard's Corn and Buckwheat,	Rhule and Acker, Williamsburg,	9.72
797	†Hubbard's Special Mixture,	J. A. Rumberger, Elizabethville,	11.26
1332		J. D. Graybill & Sons, Bellville,	
1904		G. W. Eisenwine, Salona,	
1836	Hubbard's 10-5 Phosphate,	John G. Dubbs, Bellefonte,	10.48
	INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO.		
1562	†Extra Phosphate & Potash,	C. D. Brown & Bros., Berwick,	9.46
1965		W. M. Thompson, Uniontown,	
1561	General Crop,	C. D. Brown & Bros., Berwick,	7.87
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.		
1603	Granger's Special Grain Mixture,	Mansfield Grange, Mansfield,	10.60
	LISTER'S AGRICULTURAL CHEMICAL CO., NEWARK, N. J.		
150	Superior Dissolved Phosphate and Potash,	Paul Buck, Nichols, N. Y.,	8.54
	THE FREDERICK LUDLAM CO., BALTIMORE, MD.		
1246	†Ludlam's Cecrops Fertilizer Economy,	Samuel L. Smith, Mill Creek,	6.57
1854		G. C. Miller, Axeman,	
1885		Wm. J. Hess, Quarryville,	

†Composite sample.

FERTILIZER—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
Available.		Insoluble.	Total.				Total.			
Found.	Guaranteed.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.		
8.38	8.00	.61	8.99	9.00	9.15	.....	*9.15	10.00	19.45	19.50 22.00
10.18	10.00	1.11	11.29	10.50	2.12	.....	2.12	2.00	14.16	14.50
10.67	10.00	.42	11.09	.....	2.39	.....	2.39	2.00	14.31	14.00
7.02	6.00	.54	7.56	7.00	3.00	.....	3.00	3.00	12.52	14.00
8.63	8.00	2.44	11.07	9.00	3.42	.....	*3.42	5.00	14.73	14.50 15.00
10.43	10.00	2.31	12.74	11.00	2.32	.....	2.32	2.00	14.96	14.00 17.00 13.50
11.54	10.00	.45	11.99	11.00	5.19	.....	5.19	5.00	17.88	18.00 17.50 16.00
10.41	10.00	.68	11.09	11.00	9.40	.....	9.40	8.00	21.16	19.00 19.00
10.12	10.00	.93	11.05	11.00	2.64	.....	2.64	2.00	14.56	14.00 17.00 17.00
8.54	8.00	.61	9.15	9.00	5.13	.....	5.13	5.00	15.72	..... 16.00 .....
10.28	10.00	.64	*10.92	11.50	9.58	.....	*9.58	10.00	21.25	17.40 20.00
10.18	10.00	1.27	11.45	11.50	2.42	.....	2.42	2.00	14.50	.....
*7.54	8.00	1.14	*8.68	9.50	6.03	.....	6.03	5.00	16.08	.....
12.01	12.00	1.08	*13.09	13.50	6.30	.....	6.30	2.00	19.48	.....
10.54	6.00	.77	11.31	7.00	4.09	.....	4.09	3.00	16.21	13.00
10.73	10.00	1.42	12.15	11.00	3.92	.....	3.92	4.00	16.34	15.50 16.00 17.00
11.41	10.00	1.97	13.38	11.00	5.45	.....	5.45	5.00	18.55	16.50
10.04	10.00	.96	11.00	11.00	7.47	.....	*7.47	8.00	19.14	19.50 20.00
9.00	9.00	.54	*9.54	10.00	2.91	.....	2.91	3.00	13.87	15.00
*9.60	10.00	1.53	11.13	11.00	7.25	.....	*7.25	8.00	18.84	18.10
*9.38	10.00	.47	*9.85	11.00	7.98	.....	7.98	8.00	19.02	16.50
6.63	6.00	.51	7.14	7.00	3.64	.....	3.64	3.00	12.97	13.50 13.75 14.00

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	THE FREDERICK LUDLAM CO.—Continued.		
1823	†Ludlam's Cecrops Fertilizer I. X. L. Brand	G. C. Miller, Axeman,	8.25
1884		Wm. J. Hess, Quarryville,	
	LANCASTER CHEMICAL CO., LANCASTER, PA.		
2042	No. 10 Economist Fertilizer,	Harry C. Breckhill, Strasburg,	9.61
2012	No. 13 Special Potash Manure,	R. C. Collins, Quarryville,	11.39
	FREDERICK MEHRING, BRUCEVILLE, MD.		
696	Potash and Phosphoric Acid,	J. J. Spangler, Littlestown,	9.75
	THE MILLER FERTILIZER CO., BALTIMORE, MD.		
323	Special Alkaline,	J. A. Gass, Sunbury,	8.03
	NASSAU FERTILIZER CO., NEW YORK.		
35	†Royal Mixture,	C. H. Detwiler, Roaring Springs,	9.26
576		Clinton Grammar, Trexlertown,	
1221		H. L. Vauderslice, Light Street, R. D. 1.	
	G. OBER & SONS CO., BALTIMORE, MD.		
327	Ober's Big Four (4) Special Mixture,	John Phillips, Sunbury, R. D. 3,	6.09
	PATAPSCO GUANO CO., BALTIMORE, MD.		
611	†Patapsco Alkaline Plant Food,	J. S. Harley, Thompsontown,	8.52
1618		Hutchinson & Goodman, Huntingdon	
276	†Patapsco Phospho Potash,	Chas. Shimmel, Ackermanville,	8.38
1709		H. C. Zaring, Liverpool,	
608	†Patapsco Soluble Phosphate and Potash,	J. S. Harley, Thompsontown,	8.05
683		J. H. Hersh, New Oxford No. 3,	
1505	Patapsco Superior Alkaline Manure,	E. F. Suyder, Dalton,	9.50
1538	Summit Potash Mixture,	J. P. Shuchart, New Freedom,	7.10
	J. D. PERKINS, COATESVILLE, PA.		
340	Perkins' Globe Phosphate,	Edward Tingley, New London,	10.26
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.		
1835	Piedmont Farmers' Potash Mixture,	John G. Dubbs, Bellefonte,	6.93
501	Piedmont Soluble Phosphate and Potash Mixture.	H. D. & J. F. Bream, Gettysburg,	6.45
2072	Piedmont 10% Potash Mixture,	The Equity Co-operative Exchange, Wellsboro.	8.84
2083	Piedmont Wheat Compound,	The Equity Co-operative Exchange, Wellsboro.	11.88
	THE RAMSBURG FERTILIZER CO., FREDERICK, MD.		
251	Alkaline Phosphate,	Franklin Miller & Son, Greencastle,	9.08
	RASIN MONUMENTAL CO., BALTIMORE, MD.		
1019	Rasin's Phosphate and Potash Fertilizer,	Piffer and Son, Punxsutawney,	11.48
1215		H. D. Miller, Mifflinville,	
1340		Samuel Weher, Boalsburg,	
509	Rasin's Wheat and Truck Mixture,	Chas. Yeackle, Patton R. D. 1,	10.65
1018		Pifer and Son, Punxsutawney,	
1292		Chas. McCormick, State College,	
	READING BONE FERTILIZER CO., READING, PA.		
965	Economy Brand,	George Dreihelhis, Virginsville,	5.61
1326		Benj. Hoffman, McClure,	

†Composite sample.

FERTILIZER—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.		
8.46	8.00	.82	9.28	9.00	4.87	.....	4.87	5.00	15.48	15.50 15.00
*9.08 10.74	10.00 10.00	3.06 1.47	12.14 12.21	11.00 11.00	2.14 3.38	....	2.14 *3.38	2.00 5.00	14.12 15.93	15.00 16.00
14.71	13.00	.77	15.48	.....	3.80	.....	3.80	3.00	18.92	16.00
8.97	8.00	.62	9.59	8.50	4.83	.....	4.83	5.00	15.75	18.00
8.27	8.00	.55	8.82	9.00	5.15	.....	5.15	5.00	15.49	15.50 ..... 14.50
8.37	8.00	.23	*8.60	9.00	5.00	.....	5.00	4.00	15.31	14.50
8.57	8.00	.55	9.12	9.00	5.19	.....	5.19	5.00	15.75	14.00 17.00
6.53	6.00	.83	7.36	7.00	3.02	.....	3.02	3.00	12.28	13.50 .....
10.37	10.00	.85	11.22	11.00	2.53	.....	2.53	2.00	14.70	14.50 16.50
10.39 8.21	10.00 8.00	1.03 .48	11.42 *8.69	11.00 9.00	7.51 9.98	....	*7.51 9.98	8.00 10.00	19.45 20.08	23.00 18.00
*9.78	10.00	.86	10.64	.....	2.26	.....	2.26	2.00	13.93	19.00
10.33 10.90	10.00 8.00	.61 .45	10.94 11.35	....	2.58 3.53	....	2.58 3.53	2.00 2.00	14.52 15.82	16.00 14.50
9.88	10.00	.39	10.27	.....	10.47	.....	10.47	10.00	21.67	21.50
12.20	12.00	.52	12.72	.....	4.81	.....	4.81	5.00	18.97	19.00
12.25	10.00	.91	13.16	.....	3.15	.....	3.15	2.00	16.57	13.50
10.02	10.00	1.48	11.50	11.00	2.39	.....	2.39	2.00	14.44	16.00 18.00 .....
*9.74	10.00	1.80	11.54	11.00	8.91	.....	8.91	8.00	20.61	18.00 22.00 18.25
5.92	6.00	.51	*6.43	7.00	3.47	.....	3.47	3.00	12.18	..... 15.50

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	F. S. ROYSTER GUANO CO., BALTIMORE, MD.		
985	Royster's Alkaline Phosphate,	Morris Lesher Virginsville,	6.42
1015		Pifer & Son, Punxsutawney,	
610	Royster's Bumper Crop Phosphate,	B. F. Gamon, Thompsontown,	
804		Victor E. Schaffer, Millersburg,	7.15
1034		A. P. Lippy & Son, Littlestown,	
763	Royster's Peerless Grain and Grass Grower,	J. A. McGee & Son, Clarion,	9.00
1635		M. F. Schaal, Kittanning,	
891	Royster's Superior Potash Mixture,	Jesse Long, Rockwood,	
937		Wysox Coal & Hay Co., Wysox,	9.81
1634		M. F. Schall, Kittanning,	
	THE SCOTT FERTILIZER CO., ELKTON, MD.		
429	†Scott's Tip Top and Potash,	E. D. Greenawalt, Albany,	11.58
1171		Elias S. Brubacher, Richland,	
430	Scott's 12-5 Soluble Phosphate and Potash,	E. D. Greenawalt, Albany,	10.45
428	Scott's 12-3 Soluble Phosphate and Potash,	E. D. Greenawalt, Albany,	10.94
	SMITH AGRICULTURAL CHEMICAL CO., COLUMBUS, O.		
727	Ohio Farmer's Climax Phosphate,	Kirkland & Co., Gerard,	8.32
728	Ohio Farmers' Soluble Phosphate and Potash,	Kirkland & Co., Gerard,	7.29
	SWACK'S FERTILIZER WORKS, DU BOIS, PA.		
1141	Swack's Phosphate,	T. P. Smith, Falls Creek,	7.87
1142	Swack's Super Phosphate,	T. P. Smith, Falls Creek,	8.41
	SWIFT & CO., BALTIMORE, MD.		
1148	†Swift's Pure Diamond G. Fertilizer,	James McCullough, Jr., Kittanning,	7.23
1269		P. J. Osterling, Butler,	
690	Swift's Pure Favorite Phosphate and Potash,	Humbert & Krug, Littlestown,	7.71
1681	Swift's Pure Plantation Phosphate and Potash,	Ritter & Jacobs, Newport,	8.41
322	†Swift's Pure Special Phosphate and Potash,	W. H. Diehl, Northumberland,	7.10
449		B. S. Talmage, McKean,	
700	Swift's Pure Wheat Grower Phosphate and Potash.	Louis Walker, Shanksville,	8.91
	I. P. THOMAS & SONS CO., PHILADELPHIA, PA.		
1051	†Bull's Eye Fertilizer,	M. F. Waser, York,	10.90
1524		C. R. Henrie & Son, Millville,	
1585		M. J. Kane, Montrose R. D. No. 5,	
1108	†Pilot Potash Manure,	Geo. Hayden, Nazareth, R. D. 4,	
1278		O. C. Crevelling, Allenwood,	8.38
1522		C. R. Henrie & Son, Millville,	
1109	†Special Corn and Grain Fertilizer,	Geo. Hayden, Nazareth R. D. 4,	10.16
1369		Ed. Shuey, Lickdale R. D. No. 1,	
884	†Thomas' Square Deal Fertilizer,	Mulholland & Dale, Martinville,	9.08
923		C. D. Garrison, Danville, R. D. No. 4.	
	JOHN L. TREXLER, MERTZTOWN, PA.		
1472	Trexler's Special High Grade Phosphate and Potash Mixture.	John L. Trexler, Mertztown,	10.18
	J. E. TYGERT CO., BY AM. AG. CHEM. CO., NEW YORK.		
426	†Tygert's Soluble Phosphate and Potash,	Siegfried & Schwoyer, Kempton,	10.11
1211		Geo. S. Miller, Mifflinville,	
	UNION CHEMICAL WORKS, INC., NORTH WALES, PA.		
844	Super Phosphate and Potash No. 2,	Union Chemical Wks., North Wales,	8.52
	THE U. S. FERTILIZER CO., BALTIMORE, MD.		
6	†Farm Bell Alkaline Mixture,	The J. N. Getz Co., Lock Haven,	7.51
238		L. A. Geiger, Joanna,	
1816		R. D. Foreman, Centre Hall,	

†Composite sample.

FERTILIZER—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
Available.		Insoluble.	Total.				Total.			
Found.	Guaranteed.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.		
6.95	6.00	.51	7.46	6.50	3.49	.....	3.49	3.00	12.94	13.00 17.00
8.54	8.00	.51	9.05	8.50	5.63	.....	5.63	5.00	16.16	..... 15.00 18.00
11.42	10.00	.57	11.99	10.50	2.52	.....	2.52	2.00	15.25	20.00 15.00
12.43	12.00	.77	13.20	12.50	5.19	.....	5.19	5.00	18.63	16.25 18.00 18.50
10.31	10.00	.97	11.28	.....	2.78	.....	2.78	2.00	14.86	15.00 14.50
14.09	12.00	1.20	15.29	.....	3.94	.....	*3.94	5.00	15.16	19.00
*10.00	12.00	1.18	11.18	.....	3.28	.....	3.28	3.00	15.20	17.00
10.33	10.00	.23	10.56	.....	5.47	.....	5.47	5.00	17.16	19.50
10.03	10.00	.37	10.40	.....	2.15	.....	2.15	2.00	13.83	17.00
10.61	10.00	3.34	13.95	11.00	8.19	.....	8.19	8.00	21.12	16.00
10.86	10.00	4.89	15.75	11.00	5.16	.....	5.16	5.00	18.92	14.00
*9.25	10.00	.55	9.80	.....	7.34	.....	*7.34	8.00	18.32	21.00 23.00
10.20	10.00	1.42	11.62	.....	5.20	.....	5.20	5.00	17.24	15.00
8.34	8.00	.22	8.56	.....	5.21	.....	5.21	5.00	15.48	12.50
9.93	10.00	.69	10.62	.....	1.96	.....	1.96	2.00	13.68	13.25 16.00
9.94	10.00	.60	10.54	.....	1.89	.....	1.89	2.00	13.39	16.50
*9.14	10.00	.54	*9.68	11.00	8.20	.....	8.20	8.00	19.03	18.50 19.00 20.00
*7.36	8.00	.87	*8.23	9.00	5.48	.....	5.48	5.00	15.32	13.50 14.00 15.00
10.55	10.00	.25	*10.80	11.00	5.71	.....	*5.71	6.50	17.56	17.50 .....
9.32	9.00	.54	9.86	10.00	4.66	.....	4.66	3.00	15.67	16.00 14.00
14.10	13.00	1.57	15.67	.....	5.81	.....	5.81	6.00	20.68	22.00
9.98	10.00	.98	10.96	11.00	2.61	.....	2.61	2.00	14.44	15.00 15.50
10.39	10.00	.33	10.72	.....	4.94	.....	4.94	5.00	16.75	15.00
9.99	10.00	.37	10.36	10.50	2.50	.....	2.50	2.00	14.13	14.00 15.00 14.85

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
1113	†Farm Bell Fruit and Grain Grower,	J. J. Shoemaker, Walnutport,	9.76
2079		R. J. Dunham, Wellsboro,	
670	†Farm Bell Keystone Mixture,	N. C. Creasy, Catawissa,	8.11
1814		R. D. Forman, Centre Hall,	
5	†Farm Bell Phosphate and Potash,	The J. N. Getz Co., Lock Haven,	8.39
672		N. C. Creasy, Catawissa,	
1656		Schettig Bros., Ebensburg,	
1341	Farm Bell Ten Five Mixture,	R. D. Forman, Centre Hall,	9.42
	VIRGINIA CAROLINA CHEMICAL CO., RICHMOND, VA.		
1177	†V. C. C. Co.'s Corn and Buckwheat Special,	C. E. Mauer, Boswell,	7.56
1770		S. B. Broadheck, Broadheck,	
1041	V. C. C. Co.'s Peerless Phosphate and Potash,	J. D. Markle, Hanover,	8.97
	W. E. WHANN CO., BY AM. AG. CHEM. CO., NEW YORK.		
388	†Whann's Alkaline Phosphate,	S. P. Schwalm, Valley View,	10.75
1395		E. H. Keen & Co., Parkersburg,	
	ROBERT A. WOOLDRIDGE CO., BALTIMORE, MD.		
540	†Wooldridge's German Potash Mixture,	Adam Beach, New Enterprise,	9.55
850		F. G. Evans, Kelton,	
1336		Elmer Brindle, Belleville,	
71	†Wooldridge's Old Sledge Phosphate,	T. K. Beaver, Academia,	10.62
419		Chester D. Christ, Kutztown, R. D. 4.	
541	†Wooldridge's No. 2 Phosphate and Potash,	Adam Beach, New Enterprise,	9.47
420		Chester D. Christ, Kutztown, R. D. 4.	
1455		Sam. S. Shearer, Seven Valley No. 1,	
	YORK CHEMICAL WORKS, YORK, PA.		
686	Dempwolf's Black Cross,	M. J. Sheffer, Hanover,	7.81
254	Dempwolf's Phosphate and Potash,	Peter S. Lehman, Chambersburg,	9.07
548		Harry Burns, Spring Hope,	
599		Geo. Edleman, Siegfried,	
543	Dempwolf's York Special Fertilizer,	Sturt Claycomb, Weyant,	7.57
544		Harry Burns, Spring Hope,	

†Composite sample.

FERTILIZER—Continued.

Phosphoric Acid in 100 Pounds.					Potash in 100 Pounds.				Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.		
10.28	10.00	.68	10.96	10.50	8.37	.....	8.37	8.00	20.07	16.82
										20.00
10.22	10.00	.34	10.56	10.50	9.33	.....	*9.33	10.00	20.85	20.00
										21.50
8.68	8.00	.60	9.28	8.50	6.09	.....	6.09	5.00	16.74	16.00
										15.00
										17.50
10.50	10.00	.38	10.88	10.50	5.05	.....	5.05	5.00	16.95	17.35
6.09	6.00	1.05	7.14	7.00	3.29	.....	3.29	3.00	12.34	16.00
										12.00
9.59	8.00	1.21	10.80	9.00	2.25	.....	2.25	2.00	13.90	13.00
10.20	10.00	.83	11.03	11.00	2.66	.....	2.66	2.00	14.60	14.50
										15.00
										13.00
10.62	10.00	.64	11.26	11.00	2.42	.....	2.42	2.00	14.58	15.00
										17.00
										.....
12.12	12.00	.98	13.10	13.00	5.69	.....	5.69	5.00	18.94	17.20
										16.50
8.13	8.00	.83	8.96	9.00	5.01	.....	5.01	5.00	15.36	14.75
										15.00
9.93	10.00	.68	10.61	10.50	2.31	.....	2.31	2.00	14.01	15.50
										12.50
10.52	10.00	.38	10.90	10.50	2.11	.....	2.11	2.00	14.12	14.00
										13.50
7.91	8.00	.89	8.80	8.50	4.96	.....	4.96	4.00	15.16	.....
										16.00

*Constituent falls below guaranty.

DISSOLVED BONE

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
1973	EUREKA CHEMICAL CO., BALTIMORE, MD. Dissolved Bone, ...	Wm. Davis, Greenboro, ...
2038	GRIFFITH & BOYD CO., BALTIMORE, MD. Griffith & Boyd Co's Pure Dissolved Animal Bone.	Willis C. Herr, Strasburg, ...
1805	LANCASTER CHEMICAL CO., LANCASTER, PA. Dissolved Bone, ...	Clayton Shenk, Lancaster, ...
856	F. W. TUNNELL & CO., PHILADELPHIA, PA. F. W. Tunnell & Co's Raw and Acidulated Animal Compound.	M. C. Michener, Media, ...

†Composite sample.

FERTILIZERS.

Acid and Nitrogen.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.					Nitrogen in 100 Pounds.					Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
	Available.		Insoluble.	Total		Water soluble.	Available.	Inactive—Insoluble.	Total.			
	Found.	Guaranteed.		Found.	Guaranteed.				Found.	Guaranteed.		
6.36	11.49	11.00	1.27	12.76	11.50	1.60	1.82	.30b	2.12	1.62	25.11	28.00
7.74	11.02	10.00	2.96	13.98	11.00	2.04	2.29	.17a	2.46	2.00	27.04	26.00
7.29	*7.65	11.00	10.24	17.89	.....	.94	1.95	.84b	2.79	2.47	28.69	23.00
6.19	11.65	10.00	7.10	*18.75	20.00	1.26	1.84	.29a	2.13	1.64	28.29	28.00

a, b, c; Letters indicating the proportion of insoluble nitrogen that is inactive a=2-5 or less; b=2-5 to 3-5; c=3-5 or more.
*Constituent falls below guaranty.

ACIDULATED

Furnishing

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK.	
335	†16% Acid Phosphate,	J. A. Gass, Sunbury, R. No. 3,
249		Greencastle Elevator Co., Greencastle,
1646		I. J. Farabaugh, Carrolltown,
1146	†12% Acid Phosphate,	McConnell & Waterson, Kittanning,
656		Gonsar Bros., Snydertown,
1961		King Bros., Uniontown,
336	Maryland Dissolved S. C. Phosphate,	J. A. Gass, Sunbury, R. No. 3,
1664	Wheeler's Peerless Acid Phosphate,	Jas. Horn, Marianna,
	ARMOUR'S FERTILIZER CO., INC., BALTIMORE, MD.	
102	†Armour's Star Phosphate Fertilizer,	C. L. Kelley, McKeesport,
74		G. L. Weaver, Polk,
817		Albert Deevely, Bedford, R. No. 1,
	BAUGH & SONS CO., PHILADELPHIA, PA.	
1537	†Baugh's 16% Acid Phosphate,	J. P. Shuchart, New Freedom,
512		A. J. Yahuer, Patton, R. No. 2,
1859		John Ebby, Zion,
	BOWKER FERTILIZER CO., NEW YORK.	
89	†Bowker's Dissolved Phosphate,	Kernochan & Co., Titusville,
116		A. C. McClure, Burgettstown,
	INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
1966	Dissolved Phosphate,	W M. Thompson, Uniontown,
	CENTRAL CHEMICAL CO., THOMAS FERTILIZER WORKS, HAGERSTOWN, MD.	
535	C. C. C. Dissolved Phosphate, 16%,	C. W. Stuckey, Wolfsburg,
181	†C. C. C. Dissolved Phosphate, 14%,	Nickles & Stewart, Shippensburg,
1533		J. H. Wingert, Lewisburg,
	COE-MORTIMER CO., NEW YORK.	
159	†E. Frank Coe's High Grade Soluhle Phosphate.	Bert Estabrook, Rummerfield,
109		I. W. Scott Co., Pittsburgh,
1075		Thos. K. George, Homer City,
	HENRY COPE, LINCOLN UNIVERSITY, PA.	
1925	Acid Phosphate,	Lyhurn Whitaker, Oxford,
	FARMER'S UNITED BONE FERTILIZER CO., READING, PA.	
2096	Acid Phosphate,	
	W. S. FARMER & CO., BALTIMORE, MD.	
896	†Dissolved S. C. Phosphate,	E. J. Sipe, Rockwood,
1551		A. W. Trout, Stewartstown,
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
648	†High Grade Acid Phosphate,	Chas. G. Cleckner, Millmont,
41		A. B. Mock, Martinsburg,
679		Clement Lingo, New Oxford, R. No. 3,
	W. S. HASTINGS & SON, ATGLEN, PA.	
1397	Clear Acid Phosphate,	W. S. Hastings & Son, Atglen,
	S. M. HESS & BRO., INC., PHILADELPHIA, PA.	
837	†High Grade Acid Phosphate,	Ira Price, Everett, R. No. 7,
1658		J. S. and H. J. Hoover, Patton, R. No. 1,
833	Soluble Phosphate,	Ira Price, Everett, R. No. 7,

†Composite sample.

ROCK PHOSPHATE.

Phosphoric Acid.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds. Available. Found.	Available. Guaranteed.	Insoluble.	Total. Found.	Total. Guaranteed.	Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
9.98	16.63	16.00	.37	17.00	17.00	15.32	16.00 13.00 16.00
8.87	15.02	12.00	1.11	16.13	13.00	14.43	15.00 14.00 14.50
8.95	14.87	14.00	.51	15.38	15.00	14.11	15.00
10.25	14.28	14.00	1.25	15.53	15.00	13.95	17.00
7.68	*13.39	14.00	.75	*14.14	14.50	13.12	20.00 ..... 14.00
8.39	16.68	16.00	1.65	18.33	.....	15.82	13.00 13.00 .....
8.30	12.71	11.00	.74	13.45	12.00	12.62	16.00 17.00
9.37	14.36	14.00	.78	15.14	15.00	13.82	15.00
7.51	16.95	16.00	.67	17.62	.....	15.61	14.00
7.10	14.84	14.00	.33	15.17	.....	14.02	13.00 13.00
9.38	14.25	14.00	1.03	15.28	15.00	13.84	12.00 17.00 15.50
10.04	15.71	14.00	1.12	16.83	15.00	14.90	12.50
6.57	9.73	.....	6.72	16.45	.....	12.63	.....
9.53	*13.69	14.00	.87	*14.56	15.00	13.38	12.50 12.00
11.12	14.79	14.00	1.66	16.45	15.00	14.46	14.50 14.00 13.00
9.45	14.99	14.00	.77	15.76	.....	14.28	12.00
8.56	15.29	14.00	.98	16.27	15.00	14.56	13.50 13.60
9.01	15.27	14.00	.50	15.77	15.00	14.36	15.00

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	HUBBARD FERTILIZER CO., BALTIMORE, MD.	
26	Hubbard's 16% Phosphate, ...	Rhule & Aeker, Williamsburg, ...
	LANCASTER CHEMICAL CO., LANCASTER, PA.	
2011	No. 8 Acid Phosphate, ...	R. C. Collins, Quarryville, ...
	LEBANON FERTILIZER WORKS, S. M. & D. LEVAN, LEBANON, PA.	
1385	Levan's Acid Phosphate, ...	S. M. and H. D. Levan, Lehanon, ...
	NITRATE AGENCIES CO., NEW YORK.	
807	†High Grade Acid Phosphate, ...	Jos. Miller, Wayneville, ...
801		Geo. S. Snyder, Millersburg, ...
972		Nitrate Ageucy Co., New York, ...
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
1062	†Piedmont 14% Phospbate, ...	A. F. Stutzman & Co., Johnstown, ...
780		H. J. Kilmore, Lisburn, ...
1611		Jno. G. Simpson, Huntingdon, ...
	PITTSBURGH PROVISION AND PACKING CO., PITTSBURGH, PA.	
1190	Acid Phosphate, ...	Youngwood Lumber and Supply Co., Youngwood.
	READING BONE FERTILIZER CO., READING, PA.	
1744	†Soluble Dissolved Phosphate, ...	A. Moore, Enon Valley, ...
919		Chas. L. Pohe, Catawissa, ...
1941		W. W. Moses, Exton, ...
	F. S. ROYSTER GUANO CO., BALTIMORE, MD.	
1433	Royster's High Grade Acid Phosphate, ...	Lewis Sturgrate, Mercer, ...
1014	†Royster's 14% Acid Phosphate, ...	Reynoldsville Hdwre Co., Reynoldsville, ...
84		F. P. Allen, Titusville, ...
1194		Eicher & Graft, Scottdale, ...
	SWACK'S FERTILIZER WORKS, DUBOIS, PA.	
1137	Swack's Acid Phosphate, ...	T. P. Smith, Falls Creek, ...
	SWIFT & COMPANY, BALTIMORE, MD.	
1259	Swift's Pure Garden City Phosphate, ...	Harmony Cereal Mills, Harmony, ...
	UNION CHEMICAL WORKS, NORTH WALES, PA.	
971	Acid Phosphate, ...	Union Chemical Works, North Wales, ...
	U. S. FERTILIZER CO., BALTIMORE, MD.	
491	Farm Bell Acid Phosphate, 14%, ...	Cook Grain, Feed and Supply Co., Dillsburg,

†Composite sample.

PHOSPHATE—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.					Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
	Available.		Insoluble.	Total.			
	Found.	Guaranteed.		Found.	Guaranteed.		
10.94	16.40	16.00	.17	*16.57	17.00	15.07	14.00
11.74	*11.29	14.00	2.71	*14.00	15.00	12.29	12.00
11.38	14.87	14.00	.18	15.05	15.00	13.96	.....
10.11	15.14	16.00	1.86	17.00	17.00	14.78	....
9.11	15.39	14.00	.45	15.84	.....	14.46	15.00 13.50 13.50
8.34	13.88	11.00	.55	14.43	12.00	13.41	17.00
6.02	*11.67	12.00	1.39	13.06	13.00	12.09	13.00 13.60 16.00
12.28	16.60	16.00	.23	16.83	16.50	15.25	16.00 18.00
6.83	14.88	14.00	.74	15.62	14.50	14.17	14.00 16.00
8.96	13 99	14.00	.37	*14.36	15.00	13.41	11.00
7.69	15.84	14.00	.70	16.54	.....	14.86	20.00
11.98	*15.14	16.00	.51	15.65	.....	14.29	.....
7.51	16.02	14.00	.32	16.34	14.50	14.86	12.25

*Constituent falls below guaranty.

GROUND BONE

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	AMERICAN AGRICULTURAL CHEM. CO., NEW YORK.	
822 344 1096 1338 1687	†Fine Ground Bone, †Pure Raw Bone,	H. F. Gump & Son, Everett, T. G. Evans, Kelton, Lewis Huster, Dallas, R. No. 1, Erding & Kinsloe, Newton Hamilton, B. F. Horting, Newport,
	AMERICAN FERTILIZING CO., BALTIMORE, MD.	
1639	Pure Raw Bone,	Abraham Hostetler, Johnstown,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
900 1642	†Bone Meal,	Beerits Sons & Co., Somerset, Chas. Yeackle, Patton, R. No. 1,
	R. S. AUCKER, SHAMOKIN, PA.	
918	Pure Ground Bone Meal,	R. S. Aucker, Shamokin,
	BAUGH & SONS CO., PHILADELPHIA, PA.	
859 587 1082	†Baugh's Raw Bone Meal (Warranted Pure).	Wm. C. Ball, Media, Jno. F. Stier, Johnsonville, S. K. Moore, Coopersburg,
	BERG COMPANY, PHILADELPHIA, PA.	
1396	Berg's Raw Bone Fine,	E. K. Keem & Co., Parkesburg,
	BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
1967	Bone Meal,	W. M. Thompson, Uniontown,
	CONSUMERS' FERTILIZER CO. OF N. J., FARMINGDALE, N. J.	
1154	Pure Bone Meal,	Geo. N. Greene, Philadelphia,
	JOSIAH COPE & CO., BALTIMORE, MD.	
1413	Cope's Pure Raw Bone,	F. E. Bailey, Northbrook,
1939	Cope's Steamed Bone,	Wm. Cloud, Avondale, R. D.,
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
352 217 1556	†Griffith & Boyd Co's Pure Fine Ground Bone Meal.	Passmore & Co., Nottingham, Farmers' Union, Geigertown, Anderson Bros., New Park,
1865	Griffith & Boyd Co's Soft Ground Bone Meal.	J. S. Hess, Lititz, R. No. 1,
	JARECKI CHEMICAL CO., SANDUSKY, O.	
82	Pure Ground Bone,	Clark Bros., Oil City,
	MILLER FERTILIZER CO., BALTIMORE, MD.	
1922	Ground Bone,	Miller F. Harkins, Hickory Hill,
	NITRATE AGENCIES CO., NEW YORK.	
976 1983	†Ground Bone,	Nitrate Agency Co., New York, Jno. Shrener, Grange 1256, McKeansburg,
	J. D. PERKINS, COATESVILLE, PA.	
883	Perkins' Pure Bone Meal,	Zimmer Pyle, Avondale,
	PITTSBURGH PROVISION AND PACKING CO., PITTSBURGH.	
1972	Pure Raw Bone Meal,	Wm. Davis, Greenboro,
	POLLOCK FERTILIZER CO., BALTIMORE, MD.	
854 1035	†Pollock's Soft Ground Bone,	Harvey Spencer, Cochranville, J. H. Kelly, Littlestown,

†Composite sample.

FERTILIZERS.

Acid and Nitrogen.

Moisture in 100 pounds.	Mechanical Analysis.		Phosphoric Acid.		Nitrogen in 100 Pounds.		Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of delivery.
	Diameter less than 1-50 inch. "Fine."	Diameter greater than 1-50 inch. "Coarse."	Total.		Total.			
			Found.	Guaranteed.	Found.	Guaranteed.		
5.36	45	55	25.04	22.88	2.84	2.47	32.55	32.00 28.00 33.00
6.52	50	50	21.68	21.51	3.80	3.70	33.43	36.00 34.00
6.64	82	18	*15.32	20.60	5.22	3.70	36.43	35.00
3.08	49	51	22.73	22.00	2.56	2.47	29.31	25.00 31.50
6.35	18	82	*19.46	20.00	4.11	4.00	30.83	33.00
6.90	51	49	*20.72	21.50	3.60	3.70	32.01	36.00 40.00 .....
5.42	41	59	*21.63	22.00	3.74	3.00	32.54	30.00
5.51	51	49	23.31	22.00	2.25	2.40	28.69	32.00
7.12	50	50	27.20	14.00	2.52	2.47	32.43	.....
7.02 5.41	46 61	54 39	22.53 *22.21	21.51 22.88	3.69 3.37	3.70 2.47	33.94 32.83	33.00 27.90
5.43	46	54	*20.46	22.60	3.35	3.30	30.54	32.00 32.00 31.00
5.11	50	50	*10.62	11.00	2.57	2.50	20.64	25.00
4.52	50	50	23.69	20.00	2.63	2.50	30.46	36.00
5.16	45	55	*14.30	14.50	2.60	2.47	23.25	32.00
4.36	47	53	*22.46	22.88	3.76	2.46	33.55	..... 28.00
2.76	43	57	26.02	24.00	2.94	2.47	32.71	30.00
5.30	47	53	*20.02	21.00	3.60	3.70	31.23	32.00
2.67	63	37	14.92	13.73	2.35	2.47	23.58	27.00 27.00

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	F. S. ROYSTER GUANO CO., BALTIMORE, MD.	
1068	Royster's Pure Raw Bone Meal, ...	Abraham Hostetler, Johnstown, R. No. 3, ..
	SWIFT & COMPANY, BALTIMORE, MD.	
456	Swift's Pure Ground Beef Bone, ...	W. P. Rouser & Son, North East, ...
	F. W. TUNNELL & CO., PHILADELPHIA, PA.	
855	Pure Ground Bone, ...	M. C. Michener, Media, ...
	THE ROBT. A. WOOLDRIDGE CO., BALTIMORE, MD.	
849	Wooldridge's Tuckahoe Bone Meal, ...	F. G. Evans, Kelton, ...

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Mechanical Analysis.		Phosphoric Acid.		Nitrogen in 100 Pounds.		Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of delivery.
			Total.		Total.			
	Diameter less than 1-50 inch. "Fine."	Diameter greater than 1-50 inch. "Coarse."	Found.	Guaranteed.	Found.	Guaranteed.		
6.33	27	73	21.96	21.50	3.99	3.70	32.73	32.50
2.49	70	30	29.37	27.00	2.31	2.06	34.76	29.00
4.24	61	39	29.81	25.00	*1.42	2.46	30.90	32.00
3.88	37	63	16.26	13.73	2.56	2.47	24.09	30.00

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	AHREN FERTILIZER CO., LORAINE, PA.		
240	Animal Tankage,	L. A. Geiger, Joanna,	5.61
	ALPHANO HUMUS CO., ALPHANO, N. J.		
104	Prepared Humus,	I. W. Scott, Pittsburgh,	21.65
	AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK.		
823	†Genuine German Kainit,	H. F. Gump & Son, Everett,	1.12
334		J. A. Gass, Sunbury, R. No. 3,	
1168		Cyrus Mark, Palmyra,	
48	High Grade Sulphate of Potash,	H. L. Orr, Tyrone,	.39
305	†Muriate of Potash,	R. C. King, Ulster,	1.05
47		H. L. Orr, Tyrone,	
556		W. E. Knoor, Rough and Ready,	
342	†Nitrate of Soda,	F. G. Evans, Kelton,	2.13
46		H. L. Orr, Tyrone,	
557		W. E. Knoor, Rough and Ready,	
	AMERICAN FERTILIZING CO., BALTIMORE, MD.		
1640	Muriate of Potash,	Abraham Hostetler, Johnstown,	.35
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.		
1023	†Genuine German Kainit,	Fetzer Bros., Brookville,	1.05
1794		B. and C. S. Spangler, Marietta,	
915	†Muriate of Potash,	W. Grant Beaver, Catawissa, R. No. 3	2.21
73		G. L. Weaver, Polk,	
1022	†Nitrate of Soda,	Fetzer Bros., Brookville,	1.81
311		Orwell Grange, Orwell,	
1795		B. and C. S. Spangler, Marietta,	
	BALTIMORE PULVERIZING CO., BALTIMORE, MD.		
1357	Kainit,	J. L. Royer, Myerstown, R. No. 4,	.59
	BALTIMORE FERTILIZER CO., BALTIMORE, MD.		
1882	Nitrate of Soda,	Lancaster Co. Farmers' Assn., Mauheim, R. No. 1.	1.64
	BAUGH & SONS CO., BALTIMORE, MD.		
1499	Baugh's High Grade Tankage,	D. D. B. Hand, Dalton,	10.88
177	†Genuine German Kainit,	J. H. Sheaffer, Greason,	1.02
20		Herman Keebler, Montoursville,	
960		C. S. Richards, Ransom,	
1467	Nitrate of Soda,	A. W. Shoener, Womelsdorf,	2.62
959	Sulphate of Potash,	C. S. Richards, Ransom,	.41
	BOWKER FERTILIZER COMPANY, NEW YORK.		
514	Muriate of Potash,	F. A. Westrick, Patton, R. No. 2,	.53
513	Nitrate of Soda,	F. A. Westrick, Patton, R. No. 2,	.50
	CENTRAL KENTUCKY PHOSPHATE CO.		
1602	Raw Ground Phosphate Rock,	Bradway & Nelson, Mansfield,	6.10
	COE MORTIMER CO., NEW YORK.		
107	†Muriate of Potash,	I. W. Scott, Pittsburgh,	.16
1508	†Thomas Phosphate Powder,	E. C. Rogers, Brooklyn,	.13
105		I. W. Scott, Pittsburgh,	
44		Waite & McClain, Tyrone,	
432		E. D. Greenawalt, Albany,	

†Composite sample.

FERTILIZERS.

Phosphoric Acid in 100 Lbs.					Potash in 100 Lbs.				Nitrogen in 100 Lbs.					Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
Available.			Total.				Total.					Total.			
Found.	Guaranteed.	Insoluble.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Water soluble.	Available.	Inactive—Insoluble.	Found.	Guaranteed.		
.....	.....	.....	9.30	6.58	.....	.....	.....	.....	2.60	4.92	a 1.44	*6.36	9.79	36.92	32.00
.27	**	.74	1.01	.....	1.04	.....	1.04	.50	.42	1.14	c 1.34	2.48	1.25	.....	12.00
.....	.....	.....	.....	.....	12.68	.....	12.68	12.00	....	....	.....	.....	.....	12.16	12.50 15.00 .....
.....	.....	.....	.....	.....	.....	50.29	50.29	48.00	....	....	.....	.....	.....	52.30	57.00
.....	.....	.....	.....	.....	49.82	.....	49.82	49.00	....	....	.....	.....	.....	41.84	48.00 50.00 45.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	16.30	15.00	55.79	58.00 60.00 55.00
.....	.....	.....	.....	.....	52.10	.....	52.10	48.00	....	....	.....	.....	.....	43.68	50.00
.....	.....	.....	.....	.....	13.10	.....	13.10	12.00	....	....	.....	.....	.....	12.48	14.00 14.00
.....	.....	.....	.....	.....	49.05	.....	49.05	48.00	....	....	.....	.....	.....	41.24	41.25 ..... 45.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.90	14.81	54.47	50.00 60.00
.....	.....	.....	.....	.....	12.82	.....	12.82	12.00	....	....	.....	.....	.....	12.24	13.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.82	.....	54.14	52.00
.....	.....	.....	11.10	4.00	.....	.....	.....	.....	1.12	5.97	a 1.74	7.71	6.58	43.94	36.00
.....	.....	.....	.....	.....	14.25	.....	14.25	12.40	....	....	.....	.....	.....	13.40	13.00 13.50 13.50
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.47	15.23	52.99	60.00
.....	.....	.....	.....	.....	.....	49.98	49.98	48.00	....	....	.....	.....	.....	52.00	51.00
.....	.....	.....	.....	.....	53.04	.....	53.04	49.00	....	....	.....	.....	.....	44.44	48.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.92	15.01	54.47	54.00
.....	.....	.....	21.86	.....	.....	.....	.....	.....	....	....	.....	.....	.....	.....	10.00
.....	.....	.....	.....	.....	52.51	.....	52.51	49.00	....	....	.....	.....	.....	44.00	49.00 45.00
‡17.06	.....	.....	19.48	17.00	.....	.....	.....	.....	....	....	.....	.....	.....	.....	21.00 20.00 18.00

**Reverted phosphoric acid guaranteed 0.50.
a, b, c: Letters indicating the proportion of the insoluble nitrogen that is inactive: a = 2-5 or less; b = 2-5 to 3-5; c = 3-5 or more.
*Constituent falls below guaranty.
‡Wagner method.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	CONSUMERS' FERTILIZER CO. OF NEW JERSEY, FARMINGDALE, N. J.		
1155	Muriate of Potash,	Geo. M. Greene, Philadelphia,	7.35
1153	Nitrate of Soda,	Geo. M. Green, Riverside,	2.85
	FEDERAL CHEMICAL CO., COLUMBIA, TENN.		
393	Dayhreak Tennessee Brown Phosphate Rock.	J. M. Schrope, Hegins,	.76
	FARMERS' FERTILIZER CO. OF AMERICA, SHARPSBURG, PA.		
118	Improved Phosphatic Lime,	J. M. Rauh & Bro., Midway,	.21
750	†Phosphatic Lime,	J. B. Rudert, Tarentum,	1.25
890		W. W. Thompson, Uniontown,	
	GERMAN KALI WORKS, NEW YORK.		
979	†Muriate of Potash,	German Kali Works, New York,	.76
51		Grange Co-operation, Mansfield,	
1759		J. W. Martin, Edinburg, R. D.,	
978	Sulphate of Potash,	German Kali Works, New York,	.81
	IMP. BY GRIFFITH & BOYD CO., BALTIMORE, MD.		
1277	†German Kainit,	Adam King, Allenwood,	1.17
1557		Anderson Bros., New Park,	
220	Muriate of Potash,	Farmers' Union, Geigertown,	2.65
	HUBBARD FERTILIZER CO., BALTIMORE, MD.		
56	Muriate of Potash,	H. M. Owens & Co., Lewistown,	1.40
55	Nitrate of Soda,	H. M. Owens & Co., Lewistown,	1.31
	LANCASTER CHEMICAL CO., LANCASTER, PA.		
1803	Animal Tankage,	D. H. Landis, Mill,	8.10
	LEBANON FERTILIZER WORKS, LEBANON, PA.		
1383	Tankage,	S. M. and H. D. Levan, Lebanon,	6.42
	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.		
173	†Genuine German Kainit,	J. H. Minnich, Carlisle, R. D.,	.64
832		N. C. Mearkle, Clearville, R. D.,	
	D. B. MARTIN CO., PHILADELPHIA, PA.		
1798	Animal Tankage,	Clayton Shenk, Lancaster,	7.40
1799	Nitrate of Soda,	Clayton Shenk, Lancaster,	1.84
	NITRATE AGENCIES CO., NEW YORK.		
50	†Nitrate of Soda,	Grange Co-operation, Mansfield,	.84
977		S. R. Fisher, Wernersville, R. No. 1	
	PATAPSCO GUANO CO., BALTIMORE, MD.		
616	†Muriate of Potash,	J. S. Harley, Thompsontown,	.89
1675		Russell Bros., Washington,	
	IMP. PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.		
1612	Sulphate of Potash,	Jno. G. Simpson, Huntingdon,	.05
	RASIN MONUMENTAL CO., BALTIMORE, MD.		
505	Muriate of Potash,	Chas. Yeackle, Patton, R. No. 1,	.21
	READING BONE FERTILIZER CO., READING, PA.		
621	Nitrate of Soda,	Union Hdwre. Co., Mifflinburg,	1.45

†Composite sample.

§Manufacturers guarantee certain amounts also of citrate soluble and insoluble lime. The correctness of these guaranties has not been investigated.

FERTILIZERS—Continued.

Phosphoric Acid in 100 Lbs.					Potash in 100 Lbs.				Nitrogen in 100 Lbs.					Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
Available.		Insoluble.	Total.		Present as muriate.	Present as sulphate.	Total.		Water soluble.	Available.	Inactive—Insoluble.	Total.			
Found.	Guaranteed.		Found.	Guaranteed.			Found.	Guaranteed.				Found.	Guaranteed.		
.....	.....	.....	.....	.....	53.14	.....	53.14	48.00	....	....	.....	.....	.....	44.52	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.90	14.85	54.47	.....
.....	.....	.....	31.33	29.75	.....	.....	.....	.....	....	....	.....	.....	.....	.....	9.00
‡5.06	§4.00	.....	6.41	5.74	.31	.....	.31	.....	....	....	.....	.11	.....	.....	10.00
‡4.67	§2.00	.....	6.99	4.00	.47	.....	.47	.....	....	....	.....	.06	.....	.....	10.00
															.....
.....	.....	.....	.....	.....	51.03	.....	51.03	48.00	....	....	.....	.....	.....	48.24	.....
															.....
.....	.....	.....	.....	.....	.....	50.77	50.77	47.00	....	....	.....	.....	.....	52.75	.....
.....	.....	.....	.....	.....	13.12	.....	13.12	12.00	....	....	.....	.....	.....	12.48	13.00
															12.00
.....	.....	.....	.....	.....	50.29	.....	50.29	50.00	....	....	.....	.....	.....	42.24	40.00
.....	.....	.....	.....	.....	51.39	.....	51.39	50.00	....	....	.....	.....	.....	43.12	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.82	15.58	54.14	.....
.....	.....	.....	12.60	.....	.....	.....	.....	.....	2.37	5.39	a 1.45	6.84	5.77	41.73	38.00
.....	.....	.....	*9.01	9.62	.....	.....	.....	.....	2.55	3.38	1.31	*4.69	5.77	29.94	.....
.....	.....	.....	.....	.....	12.35	.....	12.35	12.0	....	....	.....	.....	.....	11.88	.....
															15.00
.....	.....	.....	8.48	.....	.....	.....	.....	.....	3.36	5.08	b 2.03	*7.11	8.23	39.31	35.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.72	15.63	53.81	56.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.90	15.00	54.47	.....
															.....
.....	.....	.....	.....	.....	49.85	.....	49.85	49.00	....	....	.....	.....	.....	41.88	.....
															48.00
.....	.....	.....	.....	.....	.....	50.82	50.82	48.00	....	....	.....	.....	.....	52.80	55.00
.....	.....	.....	.....	.....	51.04	.....	51.04	48.00	....	....	.....	.....	.....	42.84	42.90
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.78	14.82	54.14	.....

‡Wagner method.
a, b, c; Letters indicating the proportion of the insoluble nitrogen that is inactive: a = 2-5 or less; b = 2-5 to 3-5; c = 3-5 or more.
*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	STONEMEAL FERTILIZER CO., INC., NORTH PATTERSON, N. J.		
415	Stonemeal for Corn,	A. N. Levan & Son, Kutztown,	1.92
414	Stonemeal for Horticulture and Pomology,	A. N. Levan & Son, Kutztown,	1.66
416	Stonemeal for Potatoes,	A. N. Levan & Son, Kutztown,	2.77
	SWACK'S FERTILIZER WORKS, DUBOIS, PA.		
1135	Muriate of Potash,	T. P. Smith, Falls Creek,	2.87
1136	Nitrate of Soda,	T. P. Smith, Falls Creek,	1.42
	SWIFT & COMPANY, BALTIMORE, MD.		
1072	Muriate of Potash,	G. R. Stewart, Indiana,	2.21
	I. P. THOMAS & SONS CO., PHILADELPHIA, PA.		
1279	German Kainit,	O. C. Crevelling, Allenwood,	.89
1352	Nitrate of Soda,	Monroe A. Veik, Kleinfeltersville,	2.27
	UNION CHEMICAL WORKS, NORTH WALES, PA.		
967	Kainit,	Union Chem. Works, North Wales,	1.07
970	Ground Tankage,	Union Chem. Wks., North Wales,	11.44
969	Muriate of Potash,	E. and R. Sheble,	2.95
968	Nitrate of Soda,	Union Chem. Works, North Wales,	1.60
966	Basic Slag,	Union Chem. Works, North Wales,	.11
	U. S. FERTILIZER CO., BALTIMORE, MD.		
1819	Nitrate of Soda,	R. D. Forman, Centre Hall,	1.06
	WITHERBEE SHERMAN & CO., PORT HENRY, N. Y.		
1501	Barium,	D. D. B. Hand, Dalton,	1.16
	IMP. BY YORK CHEMICAL WORKS, YORK, PA.		
1324	German Kainit,	Steininger Bros., Middleburg,	1.46
791	Muriate of Potash,	H. M. Holtzman, Berrysburg,	.49

†Composite sample.

TILIZERS—Continued.

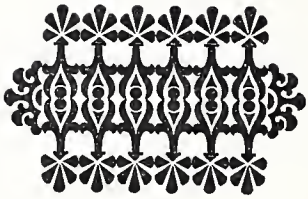
Phosphoric Acid in 100 Lbs.					Potash in 100 Lbs.				Nitrogen in 100 Lbs.						
Available.			Total.				Total.					Total.			
Found.	Guaranteed.	Insoluble.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Water soluble.	Available.	Inactive—Insoluble.	Found.	Guaranteed.	Computed commercial value of 2,000 pounds at Department rating.	Selling price of 2,000 pounds at point of selection.
0.13	.....	2.65	2.78	.....	.24	.....	.24	.....	....	....	.....	.10	.....	.....	25.00
0.31	.....	4.71	*5.02	11.18	.14	.....	.14	.....	....	....	.....	.12	.....	.....	25.00
0.42	.....	4.62	*5.04	12.86	.06	.....	.06	.....	....	....	.....	.10	.....	.....	25.00
.....	.....	.....	.....	.....	50.60	.....	50.60	50.00	....	....	.....	.....	.....	42.48	40.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.88	15.00	54.47	52.00
.....	.....	.....	.....	.....	49.34	.....	49.34	49.00	....	....	.....	.....	.....	41.48	43.00
.....	.....	.....	.....	.....	13.28	.....	13.28	12.00	....	....	.....	.....	.....	12.64	14.00
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	16.30	15.00	55.79	58.50
.....	.....	.....	.....	.....	13.02	.....	13.02	12.00	....	....	.....	.....	.....	12.40	.....
.....	.....	.....	12.66	9.10	.....	.....	.....	.....	1.26	3.38	1.51	*4.89	5.70	33.82	.....
.....	.....	.....	.....	.....	50.84	.....	50.84	49.00	....	....	.....	.....	.....	42.68	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.63	15.00	53.65	.....
‡13.10	.....	.....	*15.64	16.00	.....	.....	.....	.....	....	....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	....	....	.....	15.70	14.80	53.81	.....
.02	.....	** 15.78	15.80	.....	3.10	.....	3.10	.....	....	....	.....	.....	.....	.....	20.00
.....	.....	.....	.....	.....	17.26	.....	17.26	12.40	....	....	.....	.....	.....	15.80	16.00
.....	.....	.....	.....	.....	50.30	.....	50.30	50.00	....	....	.....	.....	.....	42.24	.....

a, b, c; Letters indicating the proportion of the insoluble nitrogen that is inactive: a = 2-5 or less; b = 2-5 to 3-5; c = 3-5 or more.

*Constituent falls below **guaranty.**

‡Wagner Method.

**Manufacturer guarantees 16% insoluble phosphoric acid, and 7% soluble barium sulphid.

Note.—The complete composition of the several stonemeal brands is stated by the makers to be as follows:

	Cereals.	Potatoes.	Hort. and pomol.
	%	%	%
Silicates, SiO_2,	30.10	27.16	29.81
Iron and alumina, $Fe_2O_3Al_2O_3$,	9.24	10.73	9.24
Lime, CaO,	12.67	13.05	13.32
Magnesia, MgO,	3.54	4.18	3.26
Potash, K_2O & Si KO,	11.22	13.62	12.42
Soda, NaO,	2.18	3.05	2.56
Phosphates, P_2O_5,	12.24	12.86	11.18
Sulphates, S & O,	11.38	9.74	10.67
Carbonates, CO_2,	6.37	4.85	6.30
Fluorates and chlorates,	1.06	.76	1.24
Total,	100.00	100.00	100.00